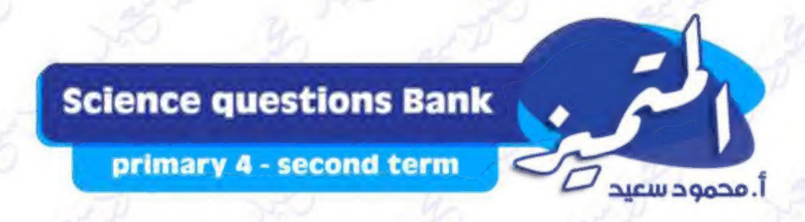


EL MOTAMYEZ - SCIENCE Questions Bank

FINAL REVISION

QUESTION 01 Choose The Correct Answer

1. The unusable energy that produced from the electric lamp ....
   - a) potential energy
   - b) chemical energy
   - c) thermal energy
   - d) light energy
2. The input energy used to control the Mars exploration vehicle is ....
   - a) electric energy
   - b) light energy
   - c) kinetic energy
   - d) mechanical energy
3. The produced energy from radio that reflects its main function is ....
   - a) electric energy
   - b) sound energy
   - c) light energy
   - d) chemical energy
4. Energy is the ability to do work. Which of the following is considered energy?
   - a) air
   - b) car
   - c) water
   - d) electricity
5. The input energy when using the hair dryer is the .... energy
   - a) electrical
   - b) potential
   - c) kinetic
   - d) thermal
6. Some energy is lost in most devices in the form of .... energy.
   - a) electric
   - b) thermal
   - c) sound
   - d) kinetic
7. Electric wires are made up of .... material.
   - a) plastic
   - b) aluminum
   - c) iron
   - d) copper
8. During riding a bike, some kinetic energy is converted into .... energy due to friction of bike's tire with the road
   - a) chemical
   - b) potential
   - c) thermal
   - d) electrical
9. A plugged-in lamp can turn .... energy to............. energy.
   - a) electrical, light
   - b) kinetic, light
   - c) chemical, light
   - d) chemical, heat
10. As energy transforms from one form to another, some of it is often lost as......
    - a) light
    - b) heat
    - c) sound
    - d) movement
11. Some electric devices need ....energy to be recharged
    - a) electrical
    - b) thermal
    - c) potential
    - d) sound
12. Spacecraft takes several .... to reach Mars planet
    - a) days
    - b) years
    - c) months
    - d) minutes
13. Energy doesn't destroy, nor create from nothing, this indicates ....
    - a) the draining of energy resources
    - b) conservation and transformation of energy
    - c) resources of energy are numerous
    - d) destroying the energy resources

(14) The idea of design and work of the robot that explores the surface of Mars depends on the idea of transforming ....

ⓐ electric to kinetic energy
ⓑ potential to kinetic energy
ⓒ light to electric energy
ⓓ kinetic to electric energy

(15) in our daily life we use devices which depend on energy forms. which of the following uses is true?

ⓐ computer depends on kinetic and electric energy
ⓑ ceiling fan depends on electric energy
ⓒ the function of television depends on the hydroelectric energy
ⓓ cell phones depend on potential and kinetic energy for operation

(16) In a battery of a toy car .... energy changes into electrical energy.

ⓐ chemical ⓑ sound ⓒ thermal ⓓ kinetic

(17) Curiosity rover is designed to explore ....

ⓐ Mars planet ⓑ the Moon ⓒ the sun ⓓ Earth planet

(18) When you use the hand bell, the .... energy changed into sound energy

ⓐ Electrical ⓑ potential ⓒ thermal ⓓ kinetic

(19) Both hair dryer and electric water kettle produce .... energy.

ⓐ thermal ⓑ light ⓒ electric ⓓ potential

(20) We can use the energy obtained from burning of wood in all of the following, except........

Next Concept

ⓐ warming houses ⓑ operating television. ⓒ cooking food ⓓ boiling water.

(21) ....is considered as the main resource of energy on the Earth's surface.

ⓐ Gasoline ⓑ The Sun ⓒ Natural gas ⓓ The moon

(22) All the following are renewable resources of energy, except...........

ⓐ natural gas ⓑ water ⓒ the Sun ⓓ wind.

(23) All the following are forms of fossil fuel, except................

ⓐ water ⓑ coal ⓒ natural gas ⓓ oil

(24) Non-renewable energy resources, take.....................

ⓐ a short period of time ⓑ a very long period of time ⓒ few minutes ⓓ few hours

(25) All the following are found deeply under the Earth's surface, except ....

ⓐ coal ⓑ natural gas ⓒ green plant ⓓ oil

(26) Smog causes irritation of ....of humans

ⓐ stomach and eyes ⓑ eyes and lungs ⓒ small intestine ⓓ large intestine

(27) Wood is considered as...................

ⓐ biofuel ⓑ fossil fuel. ⓒ liquid fuel ⓓ gaseous fuel.

28 All the following are used to generate electrical energy, except..........

- (a) oil
- (b) natural gas.
- (c) waterfalls
- (d) rain water

29 Coal is formed under the Earth's surface from the remains of.............

- (a) dead animals
- (b) dead plants.
- (c) dead humans.
- (d) dead insects.

30 Extreme heat and pressure under the Earth's surface has an important role in forming.....................

- (a) wood
- (b) wind
- (c) fossil fuel
- (d) biofuel.

31 Which of the following energy forms isn't produced from the Sun?

- (a) Thermal energy.
- (b) Light energy.
- (c) Kinetic energy
- (d) Radiation energy.

32 Which of the following is a preferred natural resource to generate clean energy?

- (a) Ocean and river water
- (b) Trees and dry herbs.
- (c) Water, coal, and oil.
- (d) Wind, oil, and natural gas.

33 The resource that we consume in a rate faster than its formation in nature......

- (a) Wind.
- (b) Water.
- (c) Solar energy.
- (d) Fossil fuel.

34 .... is a renewable source of energy

- (a) Coal
- (b) Natural gases
- (c) Water
- (d) Fossil fuel

35 The cause of preferring the use of wind and solar energies instead of coal and oil in producing energy is..................

- (a) Wind and solar energies are non-renewable energies opposite to coal and oil.
- (b) Using wind and solar energies is less expensive than coal and oil.
- (c) Wind and solar energies are renewable energies opposite to coal and oil.
- (d) Wind and solar energies have residues which negatively affect the environment.

36 We can decrease the consumption of non-renewable sources of energy by using a source of clean energy except for...............

- (a) energy produced from water turbines.
- (b) energy produced from windmills.
- (c) solar panels that exist on the roofs of houses.
- (d) energy produced from burning benzene and natural gases.

37 Energy produced from flowing water of waterfalls, dams and turbines is called............

- (a) mechanical energy
- (b) hydroelectric energy
- (c) chemical energy
- (d) kinetic energy.

38 All of the following are examples of renewable energy resources, except

- (a) fossil fuel
- (b) waterfalls.
- (c) wind
- (d) sunlight.

39 Greenhouses allow farmers to plant crops that only grow in...........

- (a) polar climate
- (b) warm climate.
- (c) absence of sunlight
- (d) absence of water.



40. The wind movement has..............energy which moves the windmill's blades.
 a. kinetic b. solar c. thermal d. potential

41. When blades of turbine rotate, it generate ....energy
 a. electrical b. solar c. chemical d. potential

42. Solar water heater changes ....energy into ....energy
 a. electrical – thermal b. solar – sound c. electrical – sound d. solar - thermal

43. When a rock's surface is eroded due to weather factors such as air or water, this indicates the occurrence of.................. process.
 a. weathering b. deposition c. transfer d. erosion

44. Dissolving metals forming rocks is an example for..................
 a. mechanical weathering. b. weathering by wind. c. deposition in rivers. d. chemical weathering

45. Which of the following indicates the occurrence of chemical weathering process?
 a. Water freezes and increases in size, helping breaking down the rocks.
 b. Mixing the acidic water with rocks, and dissolving parts of them.
 c. Trees' roots grow extensively in rocks cracks, leading to their breaking down.
 d. Collision of rocks between each other in a fast-flowing water stream.

46. Which of the following is not an example of erosion?
 a. The river carries the clay deposits to form sedimentary layers.
 b. The movement and accumulation of sand grains to form sand barrier.
 c. The sea waves transfer sand and soil crumbs from the shore to the sea.
 d. The dissolving of minerals in rocks due to water that goes through it.

47. When rocks break down into small pieces, this indicates the occurrence of.......... process.
 a. mechanical weathering b. chemical weathering c. erosion by wind d. erosion by water

48. The rapid flow of river water leads to erosion of parts of the river banks. When it slows down, it transfers some sediment to new places, and then.......... process occurs.
 a. deposition b. erosion c. weathering d. transferring

49. Rush flow of water that carries sands during deposition process leads to......
 a. chemical weathering of lime rocks.
 b. smoothing rough edges of rocks.
 c. erosion of sedimentary rocks layers.
 d. dissolving metals forming rocks.

50. Forming red rust in sedimentary rocks is evidence of occurring....... process.
 a. erosion of sedimentary rocks
 b. mechanical weathering
 c. chemical weathering
 d. transfer and deposit of crumbs

51. Nile River Delta in Egypt is formed due to.................. process.
 a. chemical weathering b. erosion c. mechanical weathering d. deposition

(52) Pulling sand away from beaches by sea waves, is considered as an example of..................

(a) mechanical weathering. (b) chemical weathering (c) erosion (d) deposition

(53) When a river meets a sea or an ocean, a................. is formed.

(a) canyon (b) volcano (c) mountain (d) delta

(54) When water freezes, it expands. This means that ....

(a) it will evaporates (b) its temperature increases. (c) its volume increases (d) its volume decreases.

(55) Pulling down broken weathered rocks at mountainsides occurs by the effect of.........

(a) gentle wind. (b) freezing of water. (c) Earth's gravity. (d) chemical weathering

The dropping of sediments in a new place, is known as..................

(a) weathering (b) deposition. (c) freezing (d) erosion

(56) The breaking of rocks into smaller particles without changing their properties is called....................

(a) mechanical weathering (b) chemical weathering. (c) deposition (d) erosion.

(57) Lichens produce.......... on rocks that dissolve minerals found in these rock

(a) oxygen (b) acids (c) water (d) rain

(58) All the following are processes that can change the Earth's surface, except..................

(a) digestion (b) erosion (c) weathering (d) deposition

(59) Limestone caves are formed due to the combination of..................

(a) dissolved minerals. (b) red-colored rusts. (c) living organisms. (d) acid rains.

(60) The formation of canyons takes...............

(a) few minutes. (b) few hours. (c) few days (d) many years

When a river that carries sediments meet a sea, ... is formed.

(a) a layer of sedimentary rock (b) a triangle-shaped delta (c) a small sand dune (d) a large sand dune

(61) Moving of sediments from a place to another represents...........process.

(a) weathering (b) photosynthesis (c) erosion (d) deposition

(62) A great sea covers north of Egypt since millions of years" is evidence of the presence of...................

Next Concept

(a) formation of the clay forming Nile River Delta in Egypt.
(b) rock formation of Wadi Al-Hitan.
(c) Formation of the coloured valleys in Sinai.
(d) formation of the Nile valley in Egypt.



63 Which of the following accurately indicates the erosion process?

- (a) Sands carve rocks changing them into new shapes.
- (b) Sand dunes form a barrier to the wind.
- (c) Water can't move big rocks.
- (d) Accumulate of Earth's materials due to erosion factors.

64 Most valleys are formed due to..................

- (a) water deposition of many sediments and transferring them far away.
- (b) chemical weathering of steep surfaces.
- (c) water erosion of many sediments and transferring them far away.
- (d) accumulation of clay in area where flowing water meets stable water.

65 Steep valleys formed due to following water erosion are called............

- (a) canyons
- (b) sand dunes.
- (c) hills
- (d) delta

66 The formation of sand dunes in Eastern Desert in Egypt is due to the movement of..............

- (a) floods
- (b) winds
- (c) waves
- (d) torrents

67 A triangular landform formed from very fine bits of sand and clay that formed due to flow of river into the sea is a.............

- (a) canyon
- (b) delta
- (c) sand dunes
- (d) valley

68 The oldest rocks layers in formation in Wadi Al-Hitan include............

- (a) Nile River Delta
- (b) turtle's fossils.
- (c) layers comprises animals' caves.
- (d) clay and sediment from soil layers.

69 Which of the following geological landforms are formed due to deposition process?

- (a) Wadi Al-Hitan and colored canyons.
- (b) Wadi Al-Hitan and Nile River Delta.
- (c) Sand dunes and colored canyons.
- (d) Nile River Delta and colored canyon.

70 At the convergence of flowing river water that carries sediments with the sea, landform which is called .... is formed.

- (a) delta
- (b) sand dunes
- (c) dams
- canyons

71 Most canyons are formed due to erosion. What the first step of forming canyons?

- (a) Water must move over rock formation that has cracked areas allowing rock to erode.
- (b) The land must lie in an area with excess water, beside humidity for breaking down the rocks.
- (c) Water must freeze in the cracks of the rock for eroding the rocks.
- (d) A crack must be formed in earth's crust to allow water to follow through.

72 Which of the following landforms is steep and formed due to power of flowing water erosion?

- (a) Plains
- (b) Valleys
- (c) Canyons
- (d) Mountains

73 The presence of sand dunes or the deposits in a region, tells us that they are.....

- (a) Eroded in their place.
- (b) weathered in their place.
- (c) eroded in another place.
- (d) weathered and eroded in their place.



74. The shape of the valley depends upon all of the following factors, except.........
    - a) type of rocks.
    - b) speed of the river.
    - c) size of rocks.
    - d) size of the river.

75. A canyon may be formed due to the effect of......................
    - a) erosion and deposition.
    - b) weathering and erosion.
    - c) weathering and deposition.
    - d) deposition only.

76. The main difference between valleys and canyons is that valleys have......
    - a) are very high.
    - b) steep slope walls.
    - c) have great depth.
    - d) vertical walls.

77. The rainwater gathers in small streams due to the............... downhill.
    - a) pushing force of gravity
    - b) pulling force of gravity
    - c) pushing force of friction
    - d) pulling force of friction

78. A canyon can be formed by the effect of.........................
    - a) water only.
    - b) wind only.
    - c) water and wind.
    - d) water and sunlight.

79. When a rock blocks the path of flying sand, a.................. may be formed.
    - a) dune
    - b) river
    - c) valley
    - d) canyon

80. A canyon may take .... of years to be formed.
    - a) hundreds
    - b) tens
    - c) millions
    - d) couple

81. If the rain falls over a small canyon for several times per year, ...
    - a) its depth increases
    - b) its depth decreases.
    - c) it becomes flat
    - d) it is not be affected

82. When the force of wind blowing......, the sand travels for a longer distance.
    - a) decreases
    - b) becomes zero
    - c) doesn't change
    - d) increases

83. Geologists are scientists who study.....................
    - a) plants
    - b) animals
    - c) human body.
    - d) rocks

84. Deltas are formed when the speed of river water...................
    - a) increases
    - b) decreases
    - c) doesn't change.
    - d) become faster.

85. ....can erode valleys and form canyons across them.
    - a) Rivers
    - b) Mountains
    - c) Dunes
    - d) Rocks

86. The large skeletons of whales that are present in Wadi Al-Hitan considered as an example of.....................
    - a) fossils
    - b) rocks
    - c) sediments
    - d) formations

87. When the water of a river travels downhill on a steep slope, its speed.........
    - a) stays constant
    - b) decreases to half.
    - c) decreases to quarter.
    - d) increases

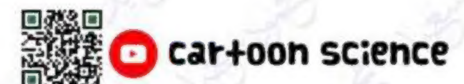
88. The process of carving the rock into different shapes by wind blowing is......
    - a) deposition
    - b) erosion
    - c) transportation.
    - d) weathering

QUESTION 02 Complete using words between brackets

1. When you turn on a light bulb, the electrical energy travels through .... until reaching the bulb. (Plastic – wires)
2. The produced ...... energy doesn't help the blender do its job. (sound - kinetic)
3. When a piece of coal is burnt, ... Energy is produced. (Potential - thermal)
4. To keep playing with the toy car, we have to .... the batteries. (replace- heat)
5. .... is considered as the main resource of energy on Earth's surface. (The sun - Natural gas)
6. The power source for the electric fan is .... (wind- electricity)
7. The output of solar panels is....................... (light – electricity)
8. The electric heater transforms............. energy into heat energy (radio – electric)
9. While playing guitar, the .... energy changes into sound energy (potential - kinetic)

QUESTION 03 Put (√) or (x) or the following statements:

1. Mars is located a few meters away from Earth ( )
2. The energy chain of a burning candle is: chemical energy converted into thermal energy & light energy ( )
3. Mars Curiosity can be operated from a distance ( )
4. There is a stored chemical energy inside the food we eat. ( )
5. The power source for the electric fan is wind ( )
6. Plants need sunlight to grow. ( )
7. There is energy loss when energy is transformed from one form to another. ( )
8. Both electric bulb and electric heater produce thermal energy ( )
9. When pedalling a bike, the chemical energy in your body changes to kinetic energy. ( )
10. Energy cannot be transformed from one form to another. ( )
11. The produced sound energy helps the hair dryer to do its function. ( )
12. We cannot create a new form of energy, and also, we cannot destroy an existed form of energy ( )





13. Curiosity is a robotic vehicle that is designed to explore the surface of moon ( )
14. The power source for the solar panel is electricity ( )
15. The energy produced when operating the gas oven is electrical energy ( )
16. As the speed of the car increases, the amount of used fuel decreases ( )

Next Concept

17. Biofuel is one of non-renewable resources of energy. ( )
18. The sun is the primary source of forming both biofuel and fossil fuel. ( )
19. The movement of a generator in electric power station produces potential energy ( )
20. Wind energy will run out faster than natural gas ( )
21. Natural gas is a form of fuels that can be used in generating electrical energy ( )
22. We can make a liquid fuel from grass and wood chips ( )
23. Turning off lights that we do not need is a way to conserve electricity ( )
24. Both coal and wood produce energy when they are burned ( )
25. Oil, natural gas and coal can be used to produce hydroelectric energy. ( )
26. Turning off lights that we do not need, is a way to conserve electricity. ( )
27. Burning of fossil fuel inside electric power station produces potential energy ( )
28. We can make liquid biofuel from wood chips and grass ( )
29. Windmills can do their job all the time as the wind never stops blowing. ( )

Next Concept

30. Both modern wind turbines and old windmills are used to generate electricity ( )
31. Looking directly at the sun is very dangerous. ( )
32. The flow of water can be controlled to generate electricity in dams ( )
33. Turbines convert kinetic energy into electrical energy ( )
34. Plants need sunlight to grow. ( )
35. We use solar energy to preserve food. ( )
36. Electricity generated from water is called hydroelectricity. ( )
37. Water is one of the sources of electricity production in Egypt ( )



No.	Statement	Answer
38	The electricity produced by water is known as electromagnetic energy.	( )
39	All physical factors of mechanical weathering lead to breaking down of rocks	( )

Next Concept

No.	Statement	Answer
40	Nile delta is a triangle-shaped mass of mud and other sediments.	( )
41	Blowing of wind and flooding of water play an important role in erosion process.	( )
42	When water freezes, its volume decreases.	( )
43	Sedimentary rocks are formed in a short period of time	( )
44	The surface of the Earth changes from time to time.	( )
45	When iron in rocks rusts, the rock becomes more stronger.	( )
46	Wind can be considered one of the factors that cause weathering	( )
47	Sea waves may cause erosion of beaches.	( )
48	Limestone caves are formed by the action of mechanical weathering.	( )
49	Strong wind and hurricanes carry sand grains for a short distance	( )
50	There are many types of sediments like sand, rocks and soil.	( )
51	Nile River Delta has a rectangular shape.	( )
52	A canyon may be formed due to the effect of wind weathering and erosion	( )
53	Sand dunes are the landform that can be seen in both beach and sandy desert.	( )
54	The river movement can take the rocks away around mountains	( )
55	Both canyons and valleys often have river in their bottom.	( )
56	The separated layers of sedimentary rocks are called sediments	( )
57	Wadi Rum in Jordan is an example of dune.	( )
58	Wind cannot break down rocks.	( )
59	The Grand Canyon in USA is very large and steep.	( )

Next Concept

No.	Statement	Answer
60	Sand travels for a short distance when wind blows with a great force.	( )
61	A canyon is formed due to the effect of water stream on a flat land.	( )
62	Wadi Al-Hitan has always looked as it does now	( )
63	Rivers cause less erosion of rocks than small streams.	( )
64	Sand dunes are formed by erosion only.	( )

65. Deltas are formed as a result of deposition ( )
66. A canyon may take one year only to be formed. ( )
67. The Grand Canyon took short period of time to be formed. ( )
68. Wadi Al-Hitan is called by this name due to the presence of fossils of large skeletons of whales. ( )
69. Canyon is a type of dunes which has steep sides ( )
70. Wind can pick up sand grains in forming sand dunes. ( )
71. At Wadi Al-Hitan, the oldest rocks are found at the top of the layers ( )
72. The Nile River pour its water in the Red Sea. ( )

QUESTION 04 Complete the following sentences

1. The energy can be .... from one form to another.
2. In any energy chain, some of the energy is lost in the form of ....
3. The electric lamp converts .... energy into light and heat energy.
4. The mobile phone converts chemical energy stored in its batteries into .... energy and .... energy.
5. When you ride a bicycle, the .... energy stored in your body is converted into .... energy which causes the bicycle to move.
6. On Mars planet, Curiosity robot can be operated by using .... energy from sunlight that is converted into .... energy used to recharge its batteries.
7. To operate an electrical mixer, we use ....energy
8. .... is burned in a power plant to produces thermal energy that used to generate electrical energy
9. Coal and .... can be used in electric power stations to generate electricity.
10. We can use some forms of fuel such as .... and .... in warming houses.
11. Turbines in electric power stations are turned by steam and they produce .... energy to run the .... of the electric power stations.
12. The electric generator changes .... energy into_.................... energy
13. Gasoline is burned inside a car engine to produce .... energy.
14. Wood chips and grass can be used to make a .... biofuel.

Next Concept

15. To avoid air pollution, we must use .... resources of energy such as water.

16. We can use solar energy in cooking by using curved mirror which collect and focus .... onto metal pots to heat them.
17. When the wind turbines rotate .... energy is converted into .... energy.
18. Renewable energy resources include ...., ... and sun
19. Both wind and water movement produce .... energy that is used to rotate turbines to generate .... energy
20. When we expose our bodies to the sun, we feel ....

QUESTION 05 Write the scientific term

1. A robot vehicle that can be controlled from a distance and is used to explore the surface of mars ( )
2. The form of energy that is stored in battery of a remote-control toy cars. ( )
3. The wasted energy of a computer. ( )
4. The energy produced from playing the guitar. ( )
5. The energy produced from a battery. ( )
6. A device used to convert electrical energy into light energy. ( )
7. Energy that always produced due to friction ( )
8. Energy can neither be created nor destroyed, but only converted from one form to another. ( )
9. A kind of energy that is produced from the electrical heater and burning coal ( )
10. The main sources of energy for most forms of energies on Earth. ( )
11. A panel designed to absorb the sun energy to produce heat or generate electricity. ( )
12. The energy that is produced from the blender and helps it in doing its job. ( )

Next Concept

13. A liquid that stores the chemical energy and it is extracted from the fuel to move the car. ( )
14. It is any substances which produces thermal energy on burning. ( )
15. Natural resources of energy that takes a very long period of time to be formed. ( )
16. It is a type of fossil fuel that is produced from dead marine animals. ( )

17. It is a form of biofuel, which can be made from some types of plants such as grass and wood chips ( )
18. It is the main source of most forms of energy on the Earth's surface. ( )
19. The energy produced when the wood of trees is burned. ( )
20. They are fuels that are produced from remains of dead animals and plants under the Earth's surface. ( )
21. It is the system that its tissue is damaged due to breathing big amount of cars smog. ( )
22. It is a type of fossil fuel that is produced from remains of dead plants under the effect of extreme heat and pressure. ( )
23. It is a type of fossil fuel that is produced from dead marine animals. ( )
24. The device in the electric power station, that turns kinetic energy into electrical energy. ( )
25. The increase of Earth's temperature, as a result of burning fossil fuels. ( )

Next Concept

26. The energy resources that include wind energy and water energy. ( )
27. A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy. ( )
28. Natural resources of energy, that take a short period of time to be renewed. ( )
29. An energy that is generated from windmills and is transmitted through wires to houses and factors. ( )
30. A process in which water changes into water vapor ( )
31. A type of electrical energy generated by water turbines in dams. ( )
32. Type of mirror that used to collect and focus sunlight onto metal pots to heat them and cook food inside ( )
33. A build on the river that controls the flow of water and increases the potential energy of water. ( )
34. A turbine that converts the energy of falling water into electrical energy ( )
35. The process in which the water of rivers evaporates, then condenses forming clouds and turn back to rivers through rainfalls ( )
36. Process in which rocks are broken down into smaller particles. ( )

Next Concept

No.	Statement	Answer
37	It is a type of weathering through which acids of lichens dissolve minerals of rocks.	( )
38	It is the breaking down of rocks due to the effect of rocks due to the effect of physical factors like wind, water, plant roots and temperature	( )
39	Process in which small broken rocks move from a place to another by the help of wind or water	( )
40	The disappearance of a sandcastle as a result of its hitting with the sea waves	( )
41	Process in which the sediments are dropped in a new location by the action of wind, water and gravity.	( )
42	It is a process through which water forming ice in cracks of rocks.	( )
43	They are deep valleys carved by flowing water.	( )
44	A fan-shaped (triangular) mass of sediment that is formed where a river enters a larger body of water like seas.	( )
45	They are small solid materials such as sand, soil and small rocks that carried by water to another place.	( )
46	A hill of sand created by the wind.	( )
47	Part of plant grows inside cracks of rocks causing its weathering	( )
48	A gas in air combines with iron of some rocks and causes its weakness.	( )
49	The force that pulls down broken weathered rocks at mountain sides	( )
50	They are tiny, like plants, live on rocks and produce acid as they grow	( )
51	They are lowland areas in between mountains and have gently sloped sides around rivers	( )
52	It is a special type of valleys which its sides are steep	( )
53	It is the landform that is formed by the effect of weathering and erosion due to wind, water or other factors.	( )
54	It is a very large and steep canyon which is found in United States of America.	( )
55	It is the process by which the wind carves the rocks into different shapes.	( )

56. They are scientists who study rocks. ( )
57. A land area that is formed by deposition process when a river enters a lake or a sea ( )
58. It is the landform that is formed by erosion and deposition of sand in sandy desert environment ( )
59. The two processes that have the main role in the formation of canyon. ( )

QUESTION 06 Give reason..... ?

1. A toy car needs battery to move.

....

2. Sound energy of hair dryer considered as wasted energy

....

3. When we use soap dispenser some energy change happens

....

4. Mars rover Curiosity was operated for long period of time on Mars without any need to be recharged.

....

5. There is a change of energy when burning wood.

....

6. When you rub your hands, you feel warm.

....

7. Thermal energy of mobile considered as wasted energy

....

8. Not all the energy that enters the energy chain reaches the device completely.

Next Concept

....

9. Gasoline is burned inside a car engine

....

10. Wind considered as renewable resources of energy

....

11. Coal considered as non-renewable resources of energy

....

12. Smog of cars are very dangerous to human health.

....

13. Fossil fuels cannot be replaced as quickly as they are used

....

14. Generator are important in electric power stations

....

15. The fuel is very important for different means of transportation.

....

16. Using wood as a fuel has negative effects on the environment

....

17. Farmers must decrease the use of pesticides

....

18. We must turn off lights that we are do not need

....

19. We feel warm at night when sun is not visible in the sky

....

20. Dams are built on rivers

....

21. Humans used windmills and watermills from hundreds of years ago

....

22. Kinetic energy of wind affects the speed of wind turbine blades rotation

....

23. Water turbines are placed in waterfalls areas

....

24. Rusting of iron of some rocks

....



25. Erosion and deposition are linked processes.

....

26. Water play an important role in the formation of limestone caves.

....

27. The Earth's surface is always changing

....

28. Lichens cause breaking down rocks

....

29. Plant roots play important role in mechanical weathering.

....

30. Plants of wetland areas help in formation of deltas.

....

31. The oldest rock layers of Wadi Al-Hitan contain fossils of whales.

....

32. Trees and other plants are growing on both sides of small canyons.

....

33. Geologists study the layers of sediment in rock formations.

....

34. Geologists study the layers of rocks in the canyon walls.

....

QUESTION 07 What happened if .... ?

1. Your hand is approached to lighting electric lamp.

....

2. You turn on radio (according to the change of energy)

....

3. You turn on electric iron

....

4. You turn on television

....

5. You use mobile phone for long time (according to wasted energy)

....

6. Battery of toy car run out

....

7. You turn on an electric fan

....

8. The change of energy when you burn a piece of wood

....

9. Solar panels exposed to sun light

....

Next Concept

10. The remains of marine were buried under the Erath΄s surface over millions of years.

....

11. people increase using wood a fuel

....

12. Decomposition of remains of sea animals under the Earth's surface

....

13. The car fuel indicator if the amount of gasoline in a car decrease

....

14. The car fuel run out

....

Next Concept

15. Water of sea evaporates up to sky

....

16. Dams are built on rivers

....

17. Wind doesn't blow in an area that contains many modern wind turbines

....

18. The kinetic energy of a wind that is applied on the wind turbine increases

....

19. Sunlight falls on solar panels

....

20. Growing of Lichens on rocks

....

21. Formation of rust on some rocks

....

22. To the shape of canyon after many years

....

23. Sea waves hit sandcastle

....

24. Acid rain falls on rocks

....

25. Plant roots grow inside the crack of rocks

....

26. The layers of sedimentary rocks press down over long periods of time

Next Concept

....

27. A flat land, if a water stream flows over it.

....

28. A river stream enters a sea.

....

29. A river erodes the sediments of a mountain over a long period of time.

....

QUESTION 08 cross the odd word

1. Food – Battery – Lamp – coal
2. weathering – deposition – evaporation-erosion
3. Electric heater – electric iron – washing machine – hair drier
4. water – wind – coal – sun
5. Hand mixer – electric heater – hand bell – drum
6. Gasoline – coal –wind - natural gas
7. acid rain – lichens – oxygen – plant root (According to type of weathering)

QUESTION 09 Match

1

	(A)		(B)
1	Energy	a	solar energy
2	Solar heaters	b	it does not destroy, but transforms from one form to another
3	Solar panel input	c	It is used to heat water using the energy of the sun
		d	It is used to convert thermal energy into electrical energy

2

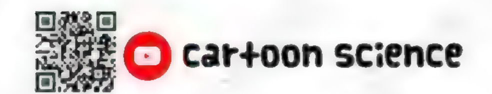
	(A)		(B)
1	The sun	a	It is operated by electricity.
2	Benzene	b	Its light energy changes into chemical energy in plants.
3	The fan	c	It is a liquid that can be used as a fuel for cars.

3

	(A)		(B)
1	Coal	a	Solar energy
2	Water	b	Non-renewable energy source
3	Wind turbine output	c	Electrical energy
		d	Renewable energy source

4

	(A)		(B)
1	Solar panels	a	use in cooking food by converting solar energy into heat energy.
2	Curved mirrors	b	It was used to grind grain.
3	Windmills	c	use to generate electricity from solar energy
		d	Convert kinetic energy into electrical energy.



5

	(A)		(B)
1	Turbines	a	It was used to grind grain
2	Greenhouse	b	Convert kinetic energy into electrical energy
3	Windmills	c	It helps to grow crops that only grow in warm climates
		d	Non-renewable energy source

6

	(A)		(B)
1	The sun	a	from non-renewable energy sources.
2	Coal	b	From Factors affecting the formation of fossil fuels
3	Pressure and temperature	c	The main energy source on the Earth's surface.
		d	Converting wind energy into electrical energy

7

	(A)		(B)
1	Natural gas	a	Convert kinetic wind energy into electricity
2	Wind turbines	b	The main source of energy on the Earth's surface
3	Law of conservation of energy	c	A non-renewable energy source
		d	Energy does not destroy, but transforms from one form to another

8

	(A)		(B)
1	Fossil fuels	a	One of the ways to conserve fossil fuels
2	Solar Panels	b	A non-renewable energy source.
3	Turn off appliances and lights when being outside the home	c	Converting solar energy into electricity.
		d	Source of renewable energy.



9

	(A)		(B)
1	sand dunes	a	A fan-shaped mass of sediment that is formed where a river enters a larger body of water like seas.
2	canyon	b	They are deep valleys carved by flowing water.
3	Delta	c	it is the land form by erosion and deposition of sand in sandy desert environment

10

	(A)		(B)
1	Deposition	a	It is a type of weathering through which acids of lichens dissolve minerals of rocks.
2	Chemical weathering	b	it is the breaking down of rocks due to the effect of rocks due to the effect of physical factors like wind, water, plant roots and temperature
3	Mechanical weathering	c	Process in which the sediments are dropped in a new location by the action of wind, water and gravity.

QUESTION 10 Correct the underlined words

1. Most of energy chains start with the <u>moon.</u> ( )
2. We use <u>thermal</u> energy used to play a drum ( )
3. To operate an electric mixer, we use <u>sound</u> energy ( )
4. There is a stored <u>thermal</u> energy inside the food we eat ( )
5. Mars rover curiosity used to explore <u>Earth</u> planet ( )
6. Wood is a form of <u>fossil fuel</u>, that can be used in houses. ( )
7. In electric power station, <u>wind</u> turns turbines that produce kinetic energy. ( )
8. Fuel is the substance that produces <u>electrical</u> energy on burning ( )
9. Generator in the electric power station changes <u>potential</u> energy into electrical energy ( )
10. Fossil fuel include oil, coal and <u>wood</u>. ( )
11. Water can be used to generate <u>solar</u> energy ( )
12. The <u>moon</u> is the primary source of both biofuel and fossil fuel ( )
13. Rivers store <u>kinetic</u> energy ( )
14. <u>Water</u> turbine rotate when their blades rotate as wind blow ( )

15. Electricity generated by wind turbines is transmitted through wind ( )
16. Thermal energy and sound energy are produced from the Sun and reach the Earth ( )
17. Dams are built on rivers to generate sound energy ( )

Next Concept

18. The movement of sediments from one place to another is known as weathering. ( )
19. Shaping the Earth is usually start by deposition process. ( )
20. Oxygen in air reacts with iron of some rocks forming green-colored rust ( )
21. When water freezes, its volume decreases ( )
22. Carbon dioxide in the air always causes rust on rocks ( )
23. Deltas are formed by weathering process. ( )
24. Dunes are lowland areas which have gently sloped sides ( )

QUESTION 11 complete using the words

1

(Canyon – delta – chemical – mechanical)

1. In ....weathering the structure of rocks changes due to chemical reactions.
2. In the ....weathering, the chemical structure of rocks doesn't change.
3. A ....is formed where rivers meet a sea.
4. ....is a deep valley carved by flowing water.

2

(Wind – sedimentary rocks – sand grains)

1. Blowing of strong ....in the desert may form large sand dunes.
2. When layers of sediments mixed with mud and remains of plants and animals and over time these layers pressed down forming ....
3. Strong wind and hurricanes carry ....for a long distance.

3

(input – Dam – output -concave mirrors – electric)

1. In electric heater electric energy is considered as an ....energy
2. ....used to control the flow of water and increases the potential energy of water to generate electricity .
3. ....used to collect and focus sun rays to heat metal pots and cook food

QUESTION 12 Answer the following questions



Rearrange the following steps to describe how coal is formed.

(a) The earth surface plants get old and died.

(b) The remains of the plants were decomposed and covered with sand clay layers

(c) Anciently, earth was covered with swamps where plants grow.

(d) Several layers of clays and sands were deposited on the remains of died plants.

(e) The buried plants were changed into coal due to the effect of heat and pressure.

....

2

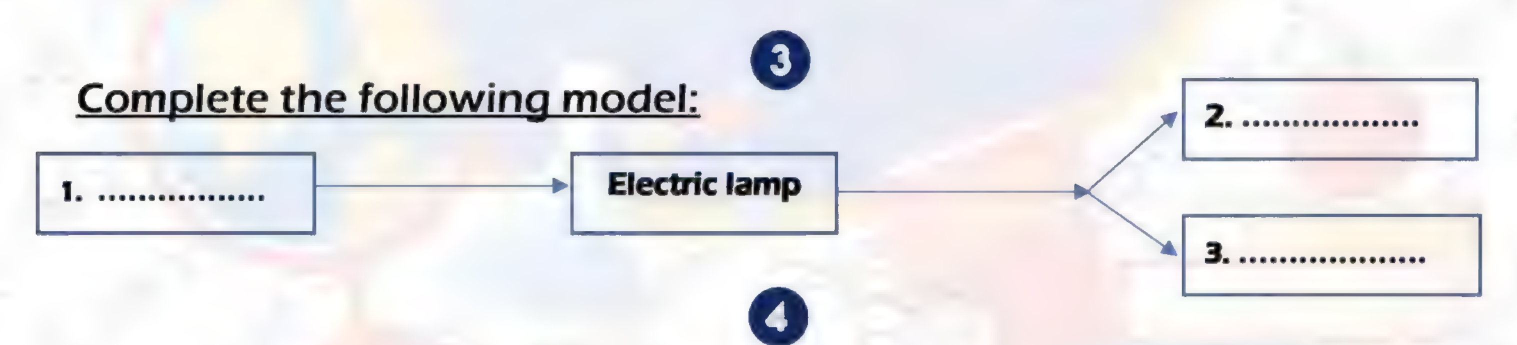
Rearrange the following steps to describe processes that cause Earth's surface changes :

(Erosion- Weathering -Deposition)

....

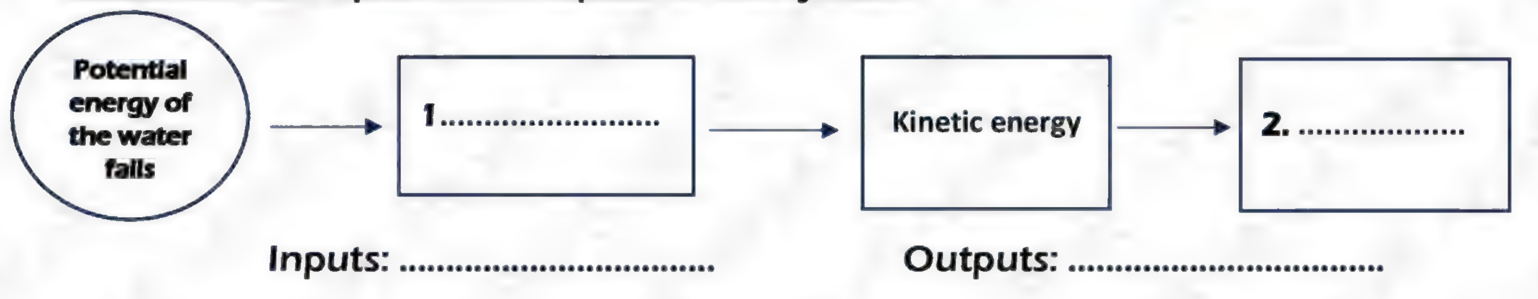
3

Complete the following model:



4

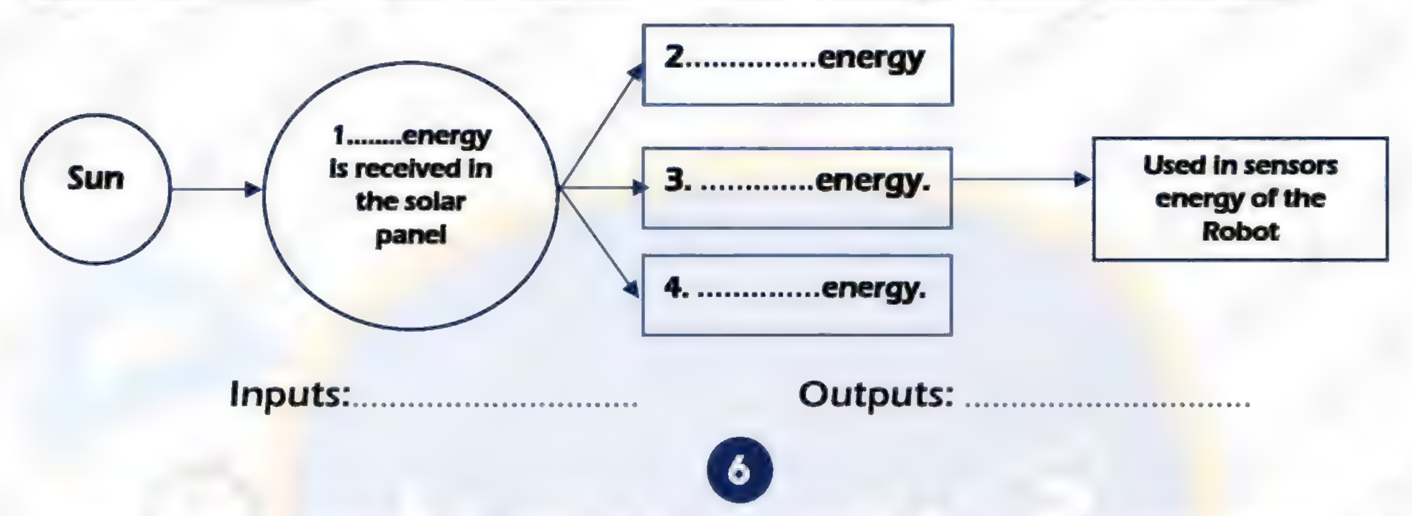
Complete the following model to describe the hydroelectric energy, and then determine the inputs and outputs of this system?



Inputs: ....   Outputs: ....

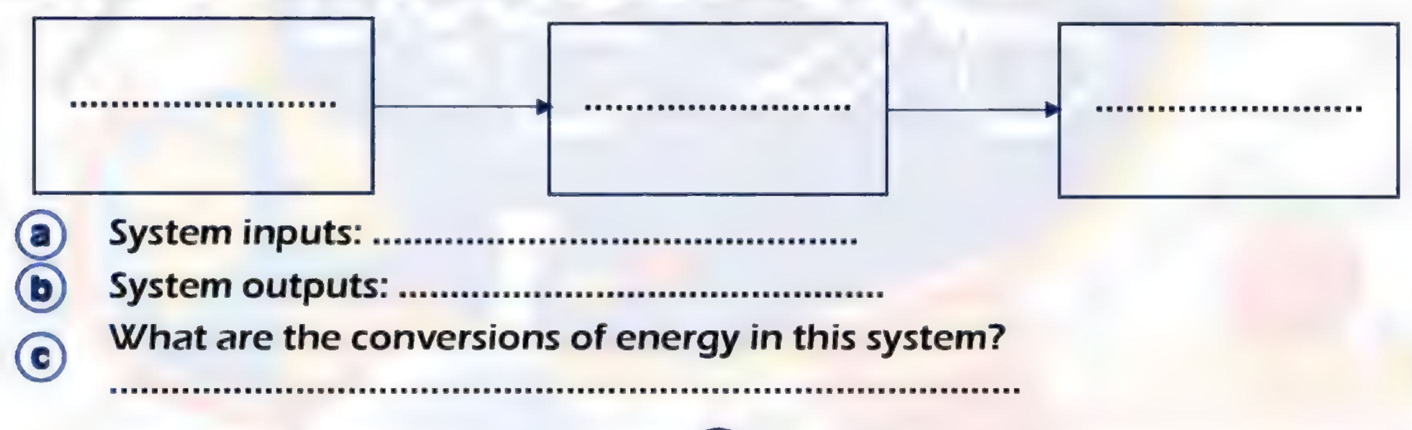


Complete the following model to describe the energy transformations in the Mars exploration vehicle, and determine the inputs and outputs of this system?



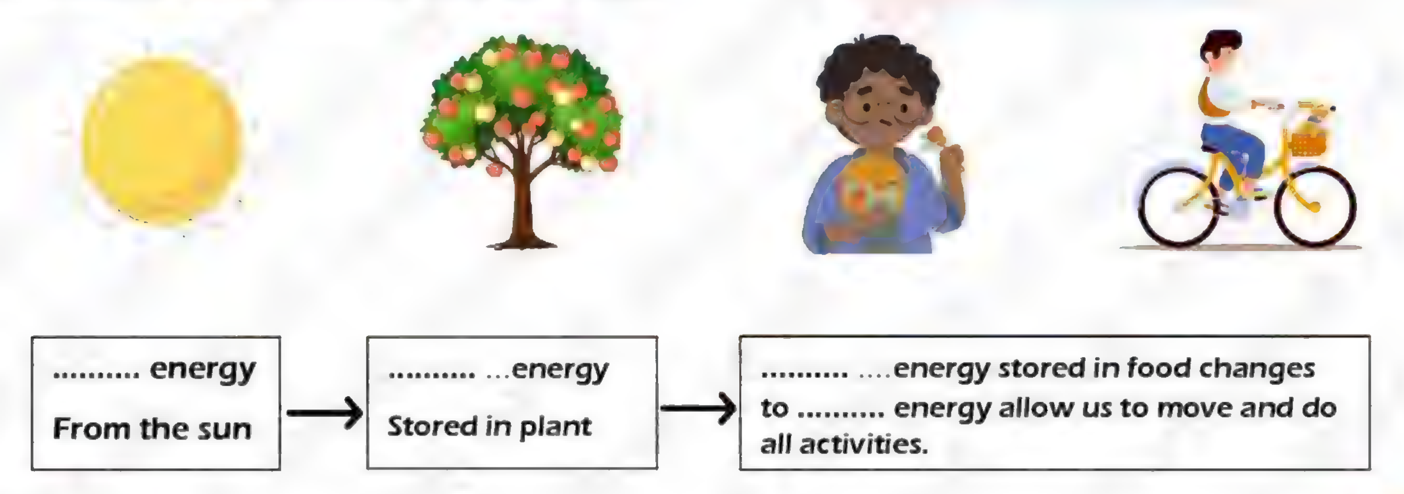
Inputs:.............................. Outputs: ....

Draw a model showing the energy chain system when using solar panels to light the roads. Define the input and output energies.



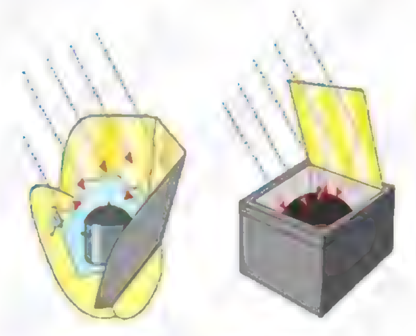
a. System inputs: ....
b. System outputs: ....
c. What are the conversions of energy in this system?
....

Complete the following energy chain:



8

The following figure represents a solar oven:



ⓐ What is the type of mirrors that used in this device?
....

ⓑ What is the importance of this device?
....

The following figure represents a solar heater



ⓐ The input energy is ....

ⓑ The output energy is ....



10

Study the opposite figure then complete the following sentences:

ⓐ This figure represents ....

ⓑ It controls flow of water and increases the .... energy of water

ⓒ When water fall water turbines rotate, it generates ....

11

Study the opposite figures then complete the following:

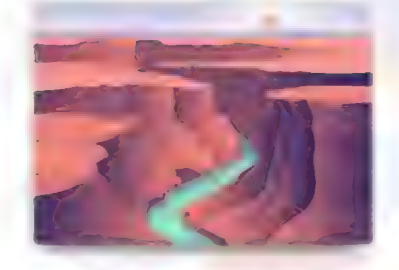


Fig (1)



Fig (2)

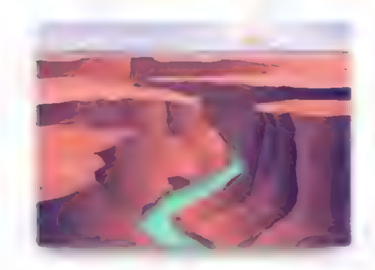


Fig (3)

ⓐ Figure (..........) and (.........) changes very slowly while figure (.......) changes very quickly.

ⓑ After some hours, figure (.............) disappears completely.

12



ⓐ This figure represents .... that formed in .... of years

ⓑ .... and .... processes help in the formation of it.



Study the opposite figures then complete the following:



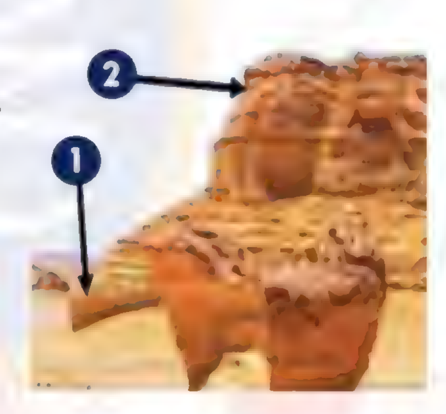



Fig (1) Fig (2) Fig (3) Fig (4)

- (a) Figure (.........) represents living organism cause mechanical weathering.
- (b) Figure (.........) represents living organism cause chemical weathering.
- (c) Oxygen gas has a bad effect on rocks in figure (.........)
- (d) Oxygen gas has a bad effect on rocks in figure (.........)



Study the opposite figures then complete the following:



- (a) This place contained a (river- sea) in the past.
- (b) The oldest rocks are found in number (1-2)
- (c) Fossils of turtles exist in (1-2)

انتهت الأسئلة مع أطيب الامنيات بالنجاح والتوفيق

الصف
الرابع
الابتدائي
٢٠٢٣

بنك أسئلة

المتميز

أ/ محمود سعيد

Model Answers

SCIENCE



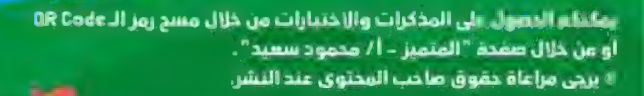
SECOND TERM FINAL REVISION

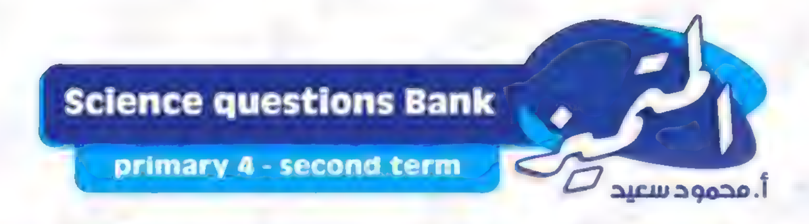
By

MRS . Amira ahmed

cartoon science





EL MOTAMYEZ - SCIENCE Questions Bank

FINAL REVISION

QUESTION 01 Choose The Correct Answer

1. The unusable energy that produced from the electric lamp ....
   a) potential energy b) chemical energy c) thermal energy d) light energy
2. The input energy used to control the Mars exploration vehicle is ....
   a) electric energy b) light energy c) kinetic energy d) mechanical energy
3. The produced energy from radio that reflects its main function is ....
   a) electric energy b) sound energy c) light energy d) chemical energy
4. Energy is the ability to do work. Which of the following is considered energy?
   a) air b) car c) water d) electricity
5. The input energy when using the hair dryer is the .... energy
   a) electrical b) potential c) kinetic d) thermal
6. Some energy is lost in most devices in the form of .... energy.
   a) electric b) thermal c) sound d) kinetic
7. Electric wires are made up of .... material.
   a) plastic b) aluminum c) iron d) copper
8. During riding a bike, some kinetic energy is converted into .... energy due to friction of bike's tire with the road
   a) chemical b) potential c) thermal d) electrical
9. A plugged-in lamp can turn .... energy to............. energy.
   a) electrical, light b) kinetic, light c) chemical, light d) chemical, heat
10. As energy transforms from one form to another, some of it is often lost as......
    a) light b) heat c) sound d) movement
11. Some electric devices need ....energy to be recharged
    a) electrical b) thermal c) potential d) sound
12. Spacecraft takes several .... to reach Mars planet
    a) days b) years c) months d) minutes
13. Energy doesn't destroy, nor create from nothing, this indicates ....
    a) the draining of energy resources b) conservation and transformation of energy
    c) resources of energy are numerous d) destroying the energy resources



14. The idea of design and work of the robot that explores the surface of Mars depends on the idea of transforming ....

- a) electric to kinetic energy
- b) potential to kinetic energy
- c) light to electric energy
- d) kinetic to electric energy

15. In our daily life we use devices which depend on energy forms. Which of the following uses is true?

- a) computer depends on kinetic and electric energy
- b) ceiling fan depends on electric energy
- c) the function of television depends on the hydroelectric energy
- d) cell phones depend on potential and kinetic energy for operation

16. In a battery of a toy car .... energy changes into electrical energy.

- a) chemical
- b) sound
- c) thermal
- d) kinetic

17. Curiosity rover is designed to explore ....

- a) Mars planet
- b) the Moon
- c) the sun
- d) Earth planet

18. When you use the hand bell, the .... energy changed into sound energy

- a) Electrical
- b) potential
- c) thermal
- d) kinetic

19. Both hair dryer and electric water kettle produce .... energy.

- a) thermal
- b) light
- c) electric
- d) potential

20. We can use the energy obtained from burning of wood in all of the following, except........

Next Concept

- a) warming houses
- b) operating television.
- c) cooking food
- d) boiling water.

21. ....is considered as the main resource of energy on the Earth's surface.

- a) Gasoline
- b) The Sun
- c) Natural gas
- d) The moon

22. All the following are renewable resources of energy, except...........

- a) natural gas
- b) water
- c) the Sun
- d) wind.

23. All the following are forms of fossil fuel, except..........

- a) water
- b) coal
- c) natural gas
- d) oil

24. Non-renewable energy resources, take...........

- a) a short period of time
- b) a very long period of time
- c) few minutes
- d) few hours

25. All the following are found deeply under the Earth's surface, except ....

- a) coal
- b) natural gas
- c) green plant
- d) oil

26. Smog causes irritation of .... of humans

- a) stomach and eyes
- b) eyes and lungs
- c) small intestine
- d) large intestine

27. Wood is considered as...................

- a) biofuel
- b) fossil fuel.
- c) liquid fuel
- d) gaseous fuel.

28. All the following are used to generate electrical energy, except..........
   - (a) oil
   - (b) natural gas.
   - (c) waterfalls
   - (d) rain water

29. Coal is formed under the Earth's surface from the remains of............
   - (a) dead animals
   - (b) dead plants.
   - (c) dead humans.
   - (d) dead insects.

30. Extreme heat and pressure under the Earth's surface has an important role in forming.....................
   - (a) wood
   - (b) wind
   - (c) fossil fuel
   - (d) biofuel.

31. Which of the following energy forms isn't produced from the Sun?
   - (a) Thermal energy.
   - (b) Light energy.
   - (c) Kinetic energy
   - (d) Radiation energy.

32. Which of the following is a preferred natural resource to generate clean energy?
   - (a) Ocean and river water
   - (b) Trees and dry herbs.
   - (c) Water, coal, and oil.
   - (d) Wind, oil, and natural gas.

33. The resource that we consume in a rate faster than its formation in nature......
   - (a) Wind.
   - (b) Water.
   - (c) Solar energy.
   - (d) Fossil fuel.

34. .... is a renewable source of energy
   - (a) Coal
   - (b) Natural gases
   - (c) Water
   - (d) Fossil fuel

35. The cause of preferring the use of wind and solar energies instead of coal and oil in producing energy is..................
   - (a) Wind and solar energies are non-renewable energies opposite to coal and oil.
   - (b) Using wind and solar energies is less expensive than coal and oil.
   - (c) Wind and solar energies are renewable energies opposite to coal and oil.
   - (d) Wind and solar energies have residues which negatively affect the environment.

36. We can decrease the consumption of non-renewable sources of energy by using a source of clean energy except for...............
   - (a) energy produced from water turbines.
   - (b) energy produced from windmills.
   - (c) solar panels that exist on the roofs of houses.
   - (d) energy produced from burning benzene and natural gases.

37. Energy produced from flowing water of waterfalls, dams and turbines is called............
   - (a) mechanical energy
   - (b) hydroelectric energy
   - (c) chemical energy
   - (d) kinetic energy.

38. All of the following are examples of renewable energy resources, except.....
   - (a) fossil fuel
   - (b) waterfalls.
   - (c) wind
   - (d) sunlight.

39. Greenhouses allow farmers to plant crops that only grow in...........
   - (a) polar climate
   - (b) warm climate.
   - (c) absence of sunlight
   - (d) absence of water.

40 The wind movement has..............energy which moves the windmill's blades.

ⓐ kinetic ⓑ solar ⓒ thermal ⓓ potential

41 When blades of turbine rotate, it generate ....energy

ⓐ electrical ⓑ solar ⓒ chemical ⓓ potential

42 Solar water heater changes ....energy into ....energy

ⓐ electrical – thermal ⓑ solar – sound ⓒ electrical – sound ⓓ solar - thermal

43 When a rock's surface is eroded due to weather factors such as air or water, this indicates the occurrence of.................. process.

ⓐ weathering ⓑ deposition ⓒ transfer ⓓ erosion

44 Dissolving metals forming rocks is an example for..................

ⓐ mechanical weathering. ⓑ weathering by wind. ⓒ deposition in rivers. ⓓ chemical weathering

45 Which of the following indicates the occurrence of chemical weathering process?

ⓐ Water freezes and increases in size, helping breaking down the rocks.
ⓑ Mixing the acidic water with rocks, and dissolving parts of them.
ⓒ Trees' roots grow extensively in rocks cracks, leading to their breaking down.
ⓓ Collision of rocks between each other in a fast-flowing water stream.

46 Which of the following is not an example of erosion?

ⓐ The river carries the clay deposits to form sedimentary layers.
ⓑ The movement and accumulation of sand grains to form sand barrier.
ⓒ The sea waves transfer sand and soil crumbs from the shore to the sea.
ⓓ The dissolving of minerals in rocks due to water that goes through it.

47 When rocks break down into small pieces, this indicates the occurrence of.......... process.

ⓐ mechanical weathering ⓑ chemical weathering ⓒ erosion by wind ⓓ erosion by water

48 The rapid flow of river water leads to erosion of parts of the river banks. When it slows down, it transfers some sediment to new places, and then.......... process occurs.

ⓐ deposition ⓑ erosion ⓒ weathering ⓓ transferring

49 Rush flow of water that carries sands during deposition process leads to......

ⓐ chemical weathering of lime rocks.
ⓑ smoothing rough edges of rocks.
ⓒ erosion of sedimentary rocks layers.
ⓓ dissolving metals forming rocks.

50 Forming red rust in sedimentary rocks is evidence of occurring....... process.

ⓐ erosion of sedimentary rocks
ⓑ mechanical weathering
ⓒ chemical weathering
ⓓ transfer and deposit of crumbs

51 Nile River Delta in Egypt is formed due to.................. process.

ⓐ chemical weathering ⓑ erosion ⓒ mechanical weathering ⓓ deposition



52 Pulling sand away from beaches by sea waves, is considered as an example of..................

ⓐ mechanical weathering. ⓑ chemical weathering ⓒ erosion ⓓ deposition

53 When a river meets a sea or an ocean, a................. is formed.

ⓐ canyon ⓑ volcano ⓒ mountain ⓓ delta

54 When water freezes, it expands. This means that ....

ⓐ it will evaporate ⓑ its temperature increases. ⓒ its volume increases ⓓ its volume decreases.

55 Pulling down broken weathered rocks at mountainsides occurs by the effect of.........

ⓐ gentle wind. ⓑ freezing of water. ⓒ Earth's gravity. ⓓ chemical weathering

* The dropping of sediments in a new place, is known as..................

ⓐ weathering ⓑ deposition. ⓒ freezing ⓓ erosion

56 The breaking of rocks into smaller particles without changing their properties is called....................

ⓐ mechanical weathering ⓑ chemical weathering. ⓒ deposition ⓓ erosion.

57 Lichens produce.......... on rocks that dissolve minerals found in these rock

ⓐ oxygen ⓑ acids ⓒ water ⓓ rain

58 All the following are processes that can change the Earth's surface, except..................

ⓐ digestion ⓑ erosion ⓒ weathering ⓓ deposition

59 Limestone caves are formed due to the combination of..................

ⓐ dissolved minerals. ⓑ red-colored rusts. ⓒ living organisms. ⓓ acid rains.

*The formation of canyons takes...............

60 ⓐ few minutes. ⓑ few hours. ⓒ few days ⓓ many years

*When a river that carries sediments meet a sea, ... is formed.

ⓐ a layer of sedimentary rock ⓑ a triangle-shaped delta ⓒ a small sand dune ⓓ a large sand dune

61 Moving of sediments from a place to another represents...........process.

ⓐ weathering ⓑ photosynthesis ⓒ erosion ⓓ deposition

62 A great sea covers north of Egypt since millions of years" is evidence of the presence of...................

ⓐ formation of the clay forming Nile River Delta in Egypt.
ⓑ rock formation of Wadi Al-Hitan.
ⓒ Formation of the colored valleys in Sinia.
ⓓ formation of the Nile valley in Egypt.

Next Concept

63 Which of the following accurately indicates the erosion process ?

- (a) Sands carve rocks changing them into new shapes.
- (b) Sand dunes form a barrier to the wind.
- (c) Water can't move big rocks.
- (d) Accumulate of Earth's materials due to erosion factors.

64 Most valleys are formed due to..................

- (a) water deposition of many sediments and transferring them far away.
- (b) chemical weathering of steep surfaces.
- (c) water erosion of many sediments and transferring them far away.
- (d) accumulation of clay in area where flowing water meets stable water.

65 Steep valleys formed due to following water erosion are called............

- (a) canyons
- (b) sand dunes.
- (c) hills
- (d) delta

66 The formation of sand dunes in Eastern Desert in Egypt is due to the movement of..............

- (a) floods
- (b) winds
- (c) waves
- (d) torrents

67 A triangular landform formed from very fine bits of sand and clay that formed due to flow of river into the sea is a.............

- (a) canyon
- (b) delta
- (c) sand dunes
- (d) valley

68 The oldest rocks layers in formation in Wadi Al-Hitan include............

- (a) Nile River Delta
- (b) turtle's fossils.
- (c) layers comprise animals' caves.
- (d) clay and sediment from soil layers.

69 Which of the following geological landforms are formed due to deposition process?

- (a) Wadi Al-Hitan and colored canyons.
- (b) Wadi Al-Hitan and Nile River Delta.
- (c) Sand dunes and colored canyons.
- (d) Nile River Delta and colored canyon.

70 At the convergence of flowing river water that carries sediments with the sea, landform which is called .... is formed.

- (a) delta
- (b) sand dunes
- (c) dams
- canyons

71 Most canyons are formed due to erosion. What the first step of forming canyons?

- (a) Water must move over rock formation that has cracked areas allowing rock to erode.
- (b) The land must lie in an area with excess water, beside humidity for breaking down the rocks.
- (c) Water must freeze in the cracks of the rock for eroding the rocks.
- (d) A crack must be formed in earth's crust to allow water to follow through.

72 Which of the following landforms is steep and formed due to power of flowing water erosion?

- (a) Plains
- (b) Valleys
- (c) Canyons
- (d) Mountains

73 The presence of sand dunes or the deposits in a region, tells us that they are..

- (a) Eroded in their place.
- (b) weathered in their place.
- (c) eroded in another place.
- (d) weathered and eroded in their place.

74 The shape of the valley depends upon all of the following factors, except.........

ⓐ type of rocks. ⓑ speed of the river. ⓒ size of rocks. ⓓ size of the river.

75 A canyon may be formed due to the effect of......................

ⓐ erosion and deposition. ⓑ weathering and erosion. ⓒ weathering and deposition. ⓓ deposition only.

76 The main difference between valleys and canyons is that valleys have......

ⓐ are very high. ⓑ steep slope walls. ⓒ have great depth. ⓓ vertical walls.

77 The rainwater gather in small streams due to the............... downhill.

ⓐ pushing force of gravity ⓑ pulling force of gravity
ⓒ pushing force of friction ⓓ pulling force of friction

78 A canyon can be formed by the effect of.........................

ⓐ water only. ⓑ wind only. ⓒ water and wind. ⓓ water and sunlight.

79 When a rock blocks the path of flying sand, a.................. may be formed.

ⓐ dune ⓑ river ⓒ valley ⓓ canyon

80 A canyon may take .... of years to be formed.

ⓐ hundreds ⓑ tens ⓒ millions ⓓ couple

81 If the rain falls over a small canyon for several times per year, ...

ⓐ its depth increases ⓑ its depth decreases. ⓒ it becomes flat ⓓ it is not be affected

82 When the force of wind blowing....., the sand travels for a longer distance.

ⓐ decreases ⓑ becomes zero ⓒ doesn't change ⓓ increases

83 Geologists are scientists who study....................

ⓐ plants ⓑ animals ⓒ human body. ⓓ rocks

84 Deltas are formed when the speed of river water..................

ⓐ increases ⓑ decreases ⓒ doesn't change. ⓓ become faster.

85 ....can erode valleys and form canyons across them.

ⓐ Rivers ⓑ Mountains ⓒ Dunes ⓓ Rocks

86 The large skeletons of whales that are present in Wadi Al-Hitan considered as an example of....................

ⓐ fossils ⓑ rocks ⓒ sediments ⓓ formations

87 When the water of a river travels downhill on a steep slope, its speed.........

ⓐ stays constant ⓑ decreases to half. ⓒ decreases to quarter. ⓓ increases

88 The process of carving the rock into different shapes by wind blowing is......

ⓐ deposition ⓑ erosion ⓒ transportation. ⓓ weathering

QUESTION 02 Complete using words between brackets

1. When you turn on a light bulb, the electrical energy travels through .... until reaching the bulb. (Plastic – wires)
2. The produced ...... energy doesn't help the blender do its job. (sound - kinetic)
3. When a piece of coal is burnt, ... energy is produced. (Potential - thermal)
4. To keep playing with the toy car, we have to .... the batteries. (replace- heat)
5. .... is considered as the main resource of energy on Earth's surface. (The sun - Natural gas)
6. The power source for the electric fan is .... (wind- electricity)
7. The output of solar panels is....................... (light – electricity)
8. The electric heater transforms............. energy into heat energy (radio – electric)
9. While playing guitar, the .... energy changes into sound energy (potential - kinetic)

QUESTION 03 Put (√) or (x) or the following statements:

1. Mars is located a few meters away from Earth ✗
2. The energy chain of a burning candle is: chemical energy converted into thermal energy & light energy ✓
3. Mars Curiosity can be operated from a distance ✓
4. There is a stored chemical energy inside the food we eat. ✓
5. The power source for the electric fan is wind ✗
6. Plants need sunlight to grow. ✓
7. There is energy loss when energy is transformed from one form to another. ✓
8. Both electric bulb and electric heater produce thermal energy ✓
9. When pedalling a bike, the chemical energy in your body changes to kinetic energy . ✓
10. Energy cannot be transformed from one form to another. ✗
11. The produced sound energy helps the hair dryer to do its function. ✗
12. We cannot create a new form of energy, and also, we cannot destroy an existed form of energy ✓

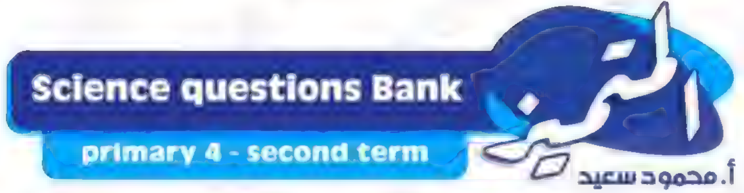
13. Curiosity is a robotic vehicle that is designed to explore the surface of moon ✗
14. The power source for the solar panel is electricity ✗
15. The energy produced when operating the gas oven is electrical energy ✗
16. As the speed of the car increases, the amount of used fuel decreases ✗

Next Concept

17. Biofuel is one of non-renewable resources of energy. ✗
18. The sun is the primary source of forming both biofuel and fossil fuel. ✓
19. The movement of a generator in electric power station produces potential energy ✗
20. Wind energy will run out faster than natural gas ✗
21. Natural gas is a form of fuels that can be used in generating electrical energy ✓
22. We can make a liquid fuel from grass and wood chips ✓
23. Turning off lights that we do not need is a way to conserve electricity ✓
24. Both coal and wood produce energy when they are burned ✓
25. Oil, natural gas and coal can be used to produce hydroelectric energy. ✓
26. Turning off lights that we do not need, is a way to conserve electricity. ✓
27. Burning of fossil fuel inside electric power station produces potential energy ✗
28. We can make liquid biofuel from wood chips and grass ✓
29. Windmills can do their job all the time as the wind never stops blowing. ✗

Next Concept

30. Both modern wind turbines and old windmills are used to generate electricity ✗
31. Looking directly at the sun is very dangerous. ✓
32. The flow of water can be controlled to generate electricity in dams ✓
33. Turbines convert kinetic energy into electrical energy ✓
34. Plants need sunlight to grow. ✓
35. We use solar energy to preserve food. ✗
36. Electricity generated from water is called hydroelectricity. ✓
37. Water is one of the sources of electricity production in Egypt ✓



38. The electricity produced by water is known as electromagnetic energy. ✗
39. All physical factors of mechanical weathering lead to breaking down of rocks ✓

Next Concept

40. Nile delta is a triangle-shaped mass of mud and other sediments. ✓
41. Blowing of wind and flooding of water play an important role in erosion process. ✓
42. When water freezes, its volume decreases. ✗
43. Sedimentary rocks are formed in a short period of time ✗
44. The surface of the Earth changes from time to time. ✓
45. When iron in rocks rusts, the rock becomes more stronger. ✗
46. Wind can be considered one of the factors that cause weathering ✓
47. Sea waves may cause erosion of beaches. ✓
48. Limestone caves are formed by the action of mechanical weathering. ✗
49. Strong wind and hurricanes carry sand grains for a short distance ✗
50. There are many types of sediments like sand, rocks and soil. ✓
51. Nile River Delta has a rectangular shape. ✗
52. A canyon may be formed due to the effect of wind weathering and erosion ✓
53. Sand dunes are the landform that can be seen in both beach and sandy desert. ✓
54. The river movement can take the rocks away around mountains ✓
55. Both canyons and valleys often have river in their bottom. ✓
56. The separated layers of sedimentary rocks are called sediments ✗
57. Wadi Rum in Jordan is an example of dune. ✗
58. Wind cannot break down rocks. ✗
59. The Grand Canyon in USA is very large and steep. ✓

Next Concept

60. Sand travels for a short distance when wind blows with a great force. ✗
61. A canyon is formed due to the effect of water stream on a flat land. ✓
62. Wadi Al-Hitan has always looked as it does now ✗
63. Rivers cause less erosion of rocks than small streams. ✗
64. Sand dunes are formed by erosion only. ✗

65. Deltas are formed as a result of deposition ✓
66. A canyon may take one year only to be formed. ✗
67. The Grand Canyon took short period of time to be formed. ✗
68. Wadi Al-Hitan is called by this name due to the presence of fossils of large skeletons of whales. ✓
69. Canyon is a type of dunes which has steep sides ✗
70. Wind can pick up sand grains in forming sand dunes. ✓
71. At Wadi Al-Hitan, the oldest rocks are found at the top of the layers ✗
72. The Nile River pour its water in the Red Sea. ✗

QUESTION 04 Complete the following sentences

1. The energy can be changed from one form to another.
2. In any energy chain, some of the energy is lost in the form of heat
3. The electric lamp converts electric energy into light and heat energy.
4. The mobile phone converts chemical energy stored in its batteries into light energy and sound energy.
5. *When you ride a bicycle, the chemical energy stored in your body is converted into kinetic energy which causes the bicycle to move.
6. *On Mars planet, Curiosity robot can be operated by using solar energy from sunlight that is converted into electric energy used to recharge its batteries.
7. To operate an electrical mixer, we use electric energy

Next Concept

8. *Coal or natural gas is burned in a power plant to produces thermal energy that used to generate electrical energy
9. Coal and oil can be used in electric power stations to generate electricity.
10. *We can use some forms of fuel such as wood and coal in warming houses.
11. Turbines in electric power stations are turned by steam and they produce kinetic energy to run the generator of the electric power stations.
12. The electric generator changes kinetic energy into electric energy
13. Gasoline is burned inside a car engine to produce thermal energy.
14. Wood chips and grass can be used to make a liquid biofuel .

Next Concept

15. To avoid air pollution, we must use renewable resources of energy such as water.

16. We can use solar energy in cooking by using curved mirror which collect and focus sun light onto metal pots to heat them.
17. When the wind turbines rotate kinetic energy is converted into electric energy.
18. Renewable energy resources include wind, water and sun
19. Both wind and water movement produce kinetic energy that is used to rotate turbines to generate electric energy
20. When we expose our bodies to the sun, we feel warm.

QUESTION 05 Write the scientific term

1. A robot vehicle that can be controlled from a distance and is used to explore the surface of mars — mars rover curiosity robot
2. The form of energy that is stored in battery of a remote-control toy cars. — chemical energy
3. The wasted energy of a computer. — heat
4. The energy produced from playing the guitar. — sound energy
5. The energy produced from a battery. — electrical energy
6. A device used to convert electrical energy into light energy. — (light bulb) Electric bulb
7. Energy that always produced due to friction — thermal energy
8. Energy can neither be created nor destroyed, but only converted from one form to another. — law of conservation of energy
9. A kind of energy that is produced from the electrical heater and burning coal — thermal energy
10. The main sources of energy for most forms of energies on Earth. — sun
11. A panel designed to absorb the sun energy to produce heat or generate electricity. — solar panel
12. The energy that is produced from the blender and helps it in doing its job. — kinetic energy
13. A liquid that stores the chemical energy and it is extracted from the fuel to move the car. — gasoline
14. It is any substances which produces thermal energy on burning. — fuel
15. Natural resources of energy that takes a very long period of time to be formed. — non-renewable energy resources

No.	Statement	Answer
16	*It is a type of fossil fuel that is produced from dead marine animals.	oil – natural gas
17	*It is a form of biofuel, which can be made from some types of plants such as grass and wood chips	liquid fuel
18	*It is the main source of most forms of energy on the Earth's surface.	the sun
19	*The energy produced when the wood of trees is burned.	thermal energy
20	*They are fuels that are produced from remains of dead animals and plants under the Earth's surface.	fossil fuels
21	*It is the system that its tissue is damaged due to breathing big amount of cars smog.	respiratory system
22	*It is a type of fossil fuel that is produced from remains of dead plants under the effect of extreme heat and pressure.	Coal
23	*It is a type of fossil fuel that is produced from dead marine animals.	oil
24	*The device in the electric power station, that turns kinetic energy into electrical energy.	generator
25	*The increase of Earth's temperature, as a result of burning fossil fuels.	Global warming
26	*The energy resources that include wind energy and water energy.	renewable energy resources
27	*A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy.	Water turbine
28	*Natural resources of energy, that take a short period of time to be renewed.	renewable energy resources
29	*An energy that is generated from windmills and is transmitted through wires to houses and factors.	electric energy
30	*A process in which water changes into water vapor	evaporation
31	*A type of electrical energy generated by water turbines in dams.	hydroelectric
32	*Type of mirror that used to collect and focus sunlight onto metal pots to heat them and cook food inside	convergent (concave) mirror
33	*A build on the river that controls the flow of water and increases the potential energy of water.	Dam
34	*A turbine that converts the energy of falling water into electrical energy	water turbine
35	*The process in which the water of rivers evaporates, then condenses forming clouds and turn back to rivers through rainfalls	water cycle

No.	Statement	Answer
36	Process in which rocks are broken down into smaller particles.	weathering
37	*It is a type of weathering through which acids of lichens dissolve minerals of rocks.	Chemical weathering
38	*It is the breaking down of rocks due to the effect of rocks due to the effect of physical factors like wind, water, plant roots and temperature	Mechanical weathering
39	*Process in which small broken rocks move from a place to another by the help of wind or water	erosion
40	*The disappearance of a sandcastle as a result of its hitting with the sea waves	Erosion of sand castle
41	*Process in which the sediments are dropped in a new location by the action of wind, water and gravity.	deposition
42	*It is a process through which water forming ice in cracks of rocks.	Freezing process
43	They are deep valleys carved by flowing water.	Canyon
44	*A fan-shaped (triangular) mass of sediment that is formed where a river enters a larger body of water like seas	delta
45	*They are small solid materials such as sand, soil and small rocks that carried by water to another place.	sediments
46	A hill of sand created by the wind.	Sand dune
47	*Part of plant grows inside cracks of rocks causing its weathering	Plant root
48	*A gas in air combines with iron of some rocks and causes its weakness.	oxygen
49	*The force that pulls down broken weathered rocks at mountain sides	gravity
50	*They are tiny, like plants, live on rocks and produce acid as they grow	lichens
51	*They are lowland areas in between mountains and have gently sloped sides around rivers	valleys
52	*It is a special type of valleys which its sides are steep	Canyon
53	*It is the landform that is formed by the effect of weathering and erosion due to wind, water or other factors.	Canyon
54	*It is a very large and steep canyon which is found in United States of America.	Grand canyon

55	It is the process by which the wind carves the rocks into different shapes.	Erosion process
56	They are scientists who study rocks.	Geologists
57	A land area that is formed by deposition process when a river enters a lake or a sea	Delta
58	It is the landform that is formed by erosion and deposition of sand in sandy desert environment	Sand dunes
59	The two processes that have the main role in the formation of canyon.	Weathering and erosion

QUESTION 06 Give reason..... ?

1. A toy car needs battery to move.
   Because chemical energy (stored in battery) → electrical energy → kinetic energy which makes toy car move
2. Sound energy of hair dryer considered as wasted energy
   Because it doesn't help hair dryer to do its main function
3. When we use soap dispenser some energy change happens
   Potential energy stored in spring change into kinetic energy
4. Mars rover curiosity was operated for long period of time on Mars without any need to be recharged.
   Because solar panels use sun light to recharge its batteries
5. There is a change of energy when burning wood.
   Chemical energy (stored inside wood) changed into thermal energy
6. When you rub your hands, you feel warm.
   Kinetic energy changed into thermal energy
7. Thermal energy of mobile considered as wasted energy
   Because it doesn't help mobile to do its main function
8. Not all the energy that enters the energy chain reaches the device completely.
   Because some of energy wasted in the form of heat
9. Gasoline is burned inside a car engine
   When gasoline burned it produce Thermal energy,
   Thermal energy change into kinetic energy which cause car move

⑩ Wind considered as renewable resources of energy

Because it replaced quickly as we need it

⑪ Coal considered as non-renewable resources of energy

Because it used at a rate faster than they renewed

⑫ Smog of cars are very dangerous to human health.

Because it causes irrigation of human's eyes and lungs

⑬ Fossil fuels cannot be replaced as quickly as they are used

Because it takes millions of years to form

⑭ Generator are important in electric power stations

Because it changes kinetic energy into electrical energy

⑮ The fuel is very important for different means of transportation.

Because fuel is burned inside the engines to produce thermal energy, Thermal energy change into kinetic energy which cause car move

⑯ Using wood as a fuel has negative effects on the environment

Because cutting tree cause deforestation

⑰ Farmers must decrease the use of pesticides

Because it causes pollution of water and soil

⑱ We must turn off lights that we are do not need

To conserve electricity

⑲ We feel warm at night when sun is not visible in the sky

Because atmosphere, land and water absorb thermal energy from sun

⑳ Dams are built on rivers

To control water flow and increase the potential energy of water to generate electricity

㉑ Humans used windmills and watermills from hundreds of years ago

To grind grains to make flour

㉒ Kinetic energy of wind affects the speed of wind turbine blades rotation

Because when kinetic energy of wind increase, the blades rotate faster, wind turbine generate more electricity

㉓ Water turbines are placed in waterfalls areas

Because kinetic energy of water rotate turbine and generate electricity

24. Rusting of iron of some rocks

Because of reaction between iron and oxygen of air

25. Erosion and deposition are linked processes.

Because deposition is a process of laying down of sediments after its erosion

26. Water play an important role in the formation of limestone caves.

Because water dissolves minerals in rocks then these dissolved minerals combine forming new shapes

27. The Earth's surface is always changing

Because of weathering, erosion, deposition process by effect of water, wind and temperature change

28. Lichens cause breaking down rocks

Because lichens produce acids that dissolve minerals of rock and break it down

29. Plant roots play important role in mechanical weathering.

When rot grows inside the crack of rock, the crake become wider and rock break down

30. Plants of wetland areas help in formation of deltas.

Because they help in increasing the rate of deposition process

31. The oldest rock layers of Wadi Al-Hitan contain fossils of whales.

Because in the past, a deep sea was existed at Wadi Al-Hitan

32. Trees and other plants are growing on both sides of small canyons.

Due to flow of water stream which is needed by plants to grow

33. Geologists study the layers of sediment in rock formations.

To know how is the landscapes looked like in the past

34. Geologists study the layers of rocks in the canyon walls.

To learn about kinds of living things existed there long ago

QUESTION 07 What happened if .... ?

1. Your hand is approached to lighting electric lamp.

You will feel warm

2. You turn on radio (according to the change of energy)

Electrical energy change into sound energy

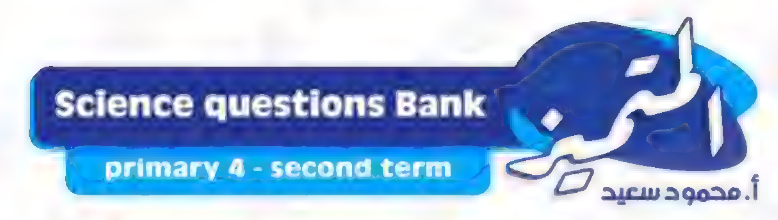
3. You turn on electric iron
electrical energy change into thermal energy
4. You turn on television
Electrical energy changed into sound and light energy
5. You use mobile phone for long time (according to wasted energy)
Some energy is wasted in form of thermal energy
6. Battery of toy car run out
Toy car cannot move so you must recharge it or replace it
7. You turn on an electric fan
Electric energy changes into kinetic energy
8. The change of energy when you burn a piece of wood
Chemical energy changes into thermal energy
9. Solar panels exposed to sun light
Solar energy changed into electrical energy

Next Concept

10. The remains of marine were buried under the Erath´s surface over millions of years.
Oil and natural gas will form
11. People increase using wood a fuel
It causes deforestation (negative effects on the environment)
12. Decomposition of remains of sea animals under the Earth's surface
Formation of oil
13. The car fuel indicator if the amount of gasoline in a car decrease
The car fuel decrease till the indicator refers to zero and the car stop
14. The car fuel run out
The car speed decreases till it stops

Next Concept

15. Water of sea evaporates up to sky
it condenses into clouds and rain may fall
16. Dams are built on rivers
potential energy of water increase, when water move potential energy change into kinetic energy which rotate turbine and generate electricity
17. Wind doesn't blow in an area that contains many modern wind turbines
The blades of wind turbines don't move and it can't generate electricity
18. The kinetic energy of a wind that is applied on the wind turbine increases
the blades rotate faster, wind turbine generate more electricity



19. Sunlight falls on solar panels
    Solar energy changed into electrical energy
20. Growing of Lichens on rocks
    It produces acid that dissolve minerals of rocks and break it down
21. Formation of rust on some rocks
    The rock become weak and break down easily
22. To the shape of canyon after many years
    Some parts may break down by the effect of water
23. Sea waves hit sandcastle
    After few minutes sand castle will completely disappear
24. Acid rain falls on rocks
    Acids dissolve minerals of rocks and break it down
25. Plant roots grow inside the crack of rocks
    The crack become wider; rock break down
26. The layers of sedimentary rocks press down over long periods of time
    Formation of sedimentary rocks

Next Concept

27. A flat land, if a water stream flows over it.
    Small canyon may be formed
28. A river stream enters a sea.
    A delta may be formed
29. A river erodes the sediments of a mountain over a long period of time.
    A canyon may be formed

QUESTION 08 cross the odd word

1	Food – Battery – Lamp – coal	coal
2	weathering – deposition – evaporation-erosion	evaporation
3	Electric heater – electric iron – washing machine – hair drier	washing machine
4	water – wind – coal – sun	coal
5	Hand mixer – electric heater – hand bell – drum	electric heater
6	Gasoline – coal –wind - natural gas	wind
7	acid rain – lichens – oxygen – plant root (according to type of weathering)	plant root

QUESTION 09 Match

1

	(A)		(B)	
1	Energy	a	solar energy	1-b
2	Solar heaters	b	it does not destroy, but transforms from one form to another	2-c
3	Solar panel input	c	It is used to heat water using the energy of the sun	3-a
		d	It is used to convert thermal energy into electrical energy	

2

	(A)		(B)	
1	The sun	a	It is operated by electricity.	1-b
2	Benzene	b	Its light energy changes into chemical energy in plants.	2-c
3	The fan	c	It is a liquid that can be used as a fuel for cars.	3-a

3

	(A)		(B)	
1	Coal	a	Solar energy	1-b
2	Water	b	Non-renewable energy source	2-d
3	Wind turbine output	c	Electrical energy	3-c
		d	Renewable energy source	

4

	(A)		(B)	
1	Solar panels	a	use in cooking food by converting solar energy into heat energy.	1- c
2	Curved mirrors	b	It was used to grind grain.	2-a
3	Windmills	c	use to generate electricity from solar energy	3-b
		d	Convert kinetic energy into electrical energy.	

5

	(A)		(B)	
1	Turbines	a	It was used to grind grain	1-b
2	Greenhouse	b	Convert kinetic energy into electrical energy	2-c
3	Windmills	c	It helps to grow crops that only grow in warm climates	3-a
		d	Non-renewable energy source	

6

	(A)		(B)	
1	The sun	a	from non-renewable energy sources.	1-c
2	Coal	b	From Factors affecting the formation of fossil fuels	2-a
3	Pressure and temperature	c	The main energy source on the Earth's surface.	3-b
		d	Converting wind energy into electrical energy	

7

	(A)		(B)	
1	Natural gas	a	Convert kinetic wind energy into electricity	1-c
2	Wind turbines	b	The main source of energy on the Earth's surface	2-a
3	Law of conservation of energy	c	A non-renewable energy source	3-d
		d	Energy does not destroy, but transforms from one form to another	

8

	(A)		(B)	
1	Fossil fuels	a	One of the ways to conserve fossil fuels	1-b
2	Solar Panels	b	A non-renewable energy source	2-c
3	Turn off appliances and lights when being outside the home	c	Converting solar energy into electricity.	3-a
		d	Source of renewable energy.	

9

	(A)		(B)	
1	sand dunes	a	A fan-shaped mass of sediment that is formed where a river enters a larger body of water like seas.	1-c
2	canyon	b	They are deep valleys carved by flowing water.	2-b
3	Delta	c	it is the land form by erosion and deposition of sand in sandy desert environment	3-a

10

	(A)		(B)	
1	Deposition	a	It is a type of weathering through which acids of lichens dissolve minerals of rocks.	1-c
2	Chemical weathering	b	it is the breaking down of rocks due to the effect of rocks due to the effect of physical factors like wind, water, plant roots and temperature	2-a
3	Mechanical weathering	c	Process in which the sediments are dropped in a new location by the action of wind, water and gravity.	3-b

QUESTION 10 Correct the underlined words

1. Most of energy chains start with the <u>moon.</u> — sun
2. We use <u>thermal</u> energy used to play a drum — kinetic
3. To operate an electric mixer, we use <u>sound</u> energy — electric
4. There is a stored <u>thermal</u> energy inside the food we eat — chemical
5. Mars rover curiosity used to explore <u>Earth</u> planet — Mars
6. Wood is a form of <u>fossil fuel</u>, that can be used in houses. — Biofuel
7. In electric power station, <u>wind</u> turns turbines that produce kinetic energy. — steam
8. Fuel is the substance that produces <u>electrical</u> energy on burning — thermal
9. Generator in the electric power station changes <u>potential</u> energy into electrical energy — kinetic
10. Fossil fuel include oil, coal and <u>wood</u>. — Natural gas
11. Water can be used to generate <u>solar</u> energy — hydroelectric
12. The <u>moon</u> is the primary source of both biofuel and fossil fuel — The sun
13. Rivers store <u>kinetic</u> energy — potential
14. <u>Water</u> turbine rotate when their blades rotate as wind blow — wind

15	Electricity generated by wind turbines is transmitted through <u>wind</u>	wires
16	Thermal energy and <u>sound</u> energy are produced from the Sun and reach the Earth	light
17	Dams are built on rivers to generate <u>sound</u> energy	electrical
18	The movement of sediments from one place to another is known as <u>weathering.</u>	erosion
19	Shaping the Earth is usually start by <u>deposition</u> process.	weathering
20	Oxygen in air reacts with iron of some rocks forming <u>green</u>-colored rust	red
21	When water freezes, its volume <u>decreases</u>	increase
22	<u>Carbon dioxide</u> in the air always causes rust on rocks	oxygen
23	Deltas are formed by <u>weathering</u> process.	deposition
24	<u>Dunes</u> are lowland areas which have gently sloped sides	Valley

QUESTION 11 complete using the words



(canyon – delta – chemical – mechanical)

1. In <u>chemical</u> weathering the structure of rocks changes due to chemical reactions .
2. In the <u>mechanical</u> weathering, the chemical structure of rocks doesn't change.
3. A <u>delta</u> is formed where rivers meet a sea.
4. <u>canyon</u> is a deep valley carved by flowing water.



(Wind – sedimentary rocks – sand grains)

1. Blowing of strong <u>wind</u> in the desert may form large sand dunes.
2. When layers of sediments mixed with mud and remains of plants and animals and over time these layers pressed down forming <u>sedimentary rocks</u>
3. Strong wind and hurricanes carry <u>sand grains</u> for a long distance.



(input – Dam – output -concave mirrors – electric)

1. In electric heater electric energy is considered as an <u>input</u> energy
2. <u>Dam</u> used to control the flow of water and increases the potential energy of water to generate electricity .
3. <u>concave mirrors</u> used to collect and focus sun rays to heat metal pots and cook food
4. The energy that is produced from the battery and used to operate a toy car is <u>electric</u> energy.

QUESTION 12 Answer the following questions



Rearrange the following steps to describe how coal is formed.

a) The earth surface plants get old and died.
b) The remains of the plants were decomposed and covered with sand clay layers
c) Anciently, earth was covered with swamps where plants grow.
d) Several layers of clays and sands were deposited on the remains of died plants.
e) The buried plants were changed into coal due to the effect of heat and pressure.

Answer : c-a-b-d-e

2

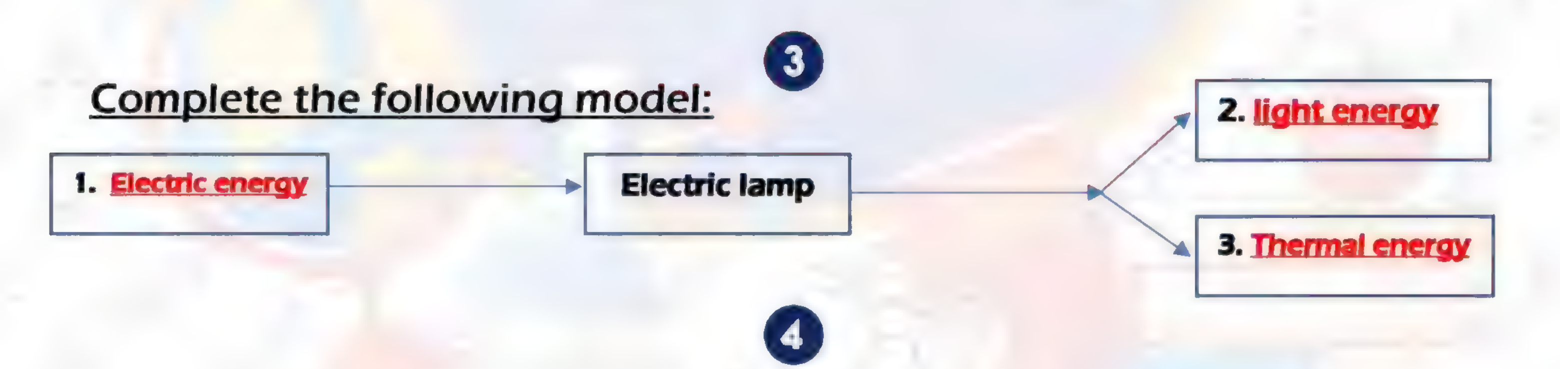
Rearrange the following steps to describe processes that cause Earth's surface changes :

(Erosion- Weathering -Deposition)

....Weathering – Erosion – Deposition...

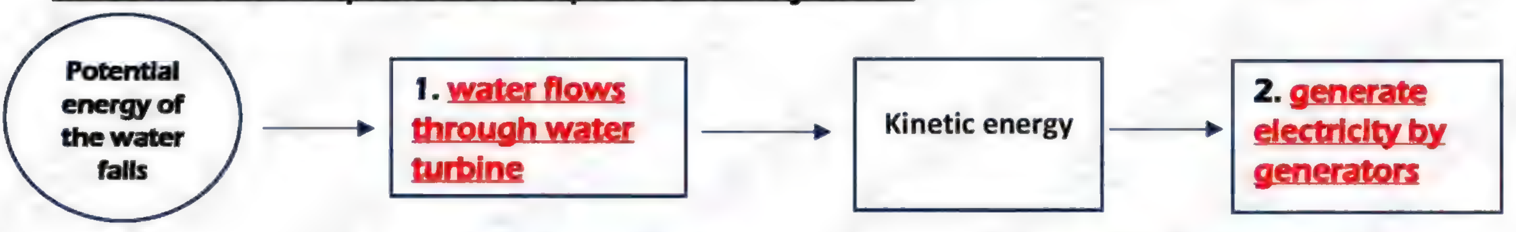
3

Complete the following model:



4

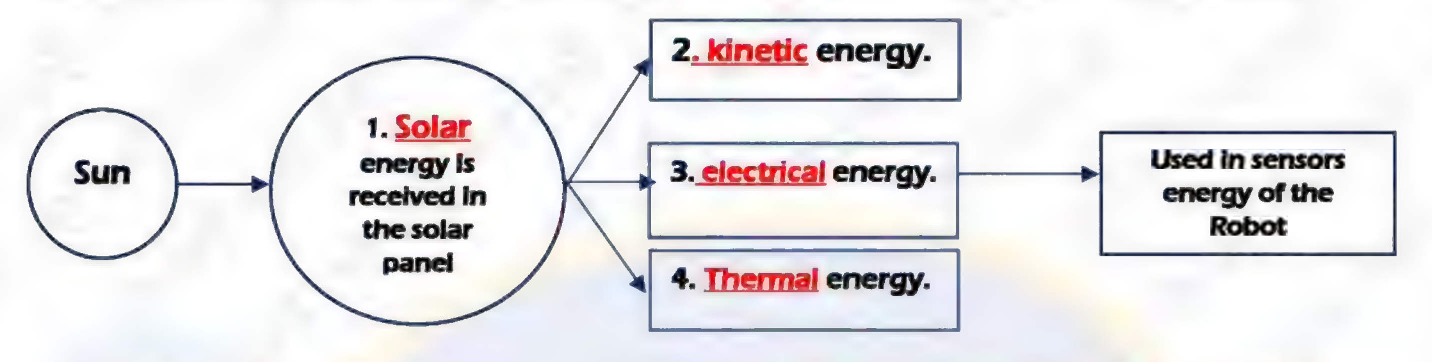
Complete the following model to describe the hydroelectric energy, and then determine the inputs and outputs of this system?



Inputs: potential energy Outputs: electric energy



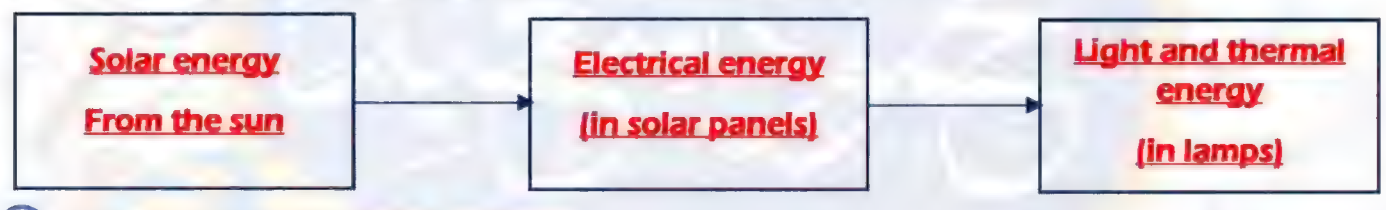
Complete the following model to describe the energy transformations in the Mars exploration vehicle, and determine the inputs and outputs of this system?



Inputs: solar energy　　　Outputs: kinetic, electrical and thermal energy



Draw a model showing the energy chain system when using solar panels to light the roads. Define the input and output energies.



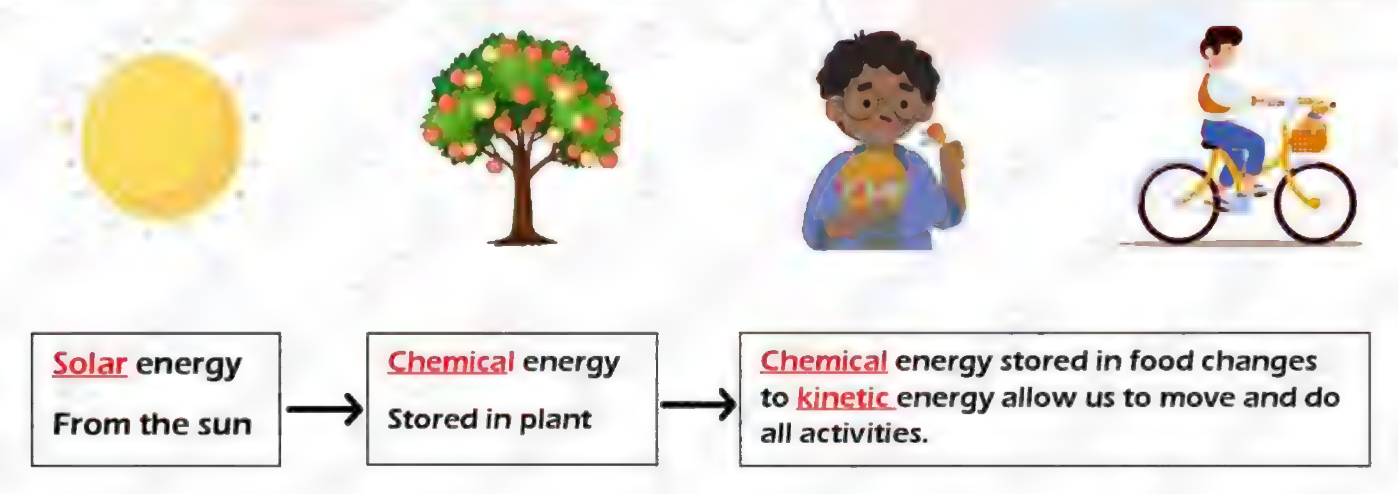
a. System inputs: solar energy

b. System outputs: light and thermal energy

c. What are the conversions of energy in this system?
Solar energy→ electrical energy→ light and thermal energy

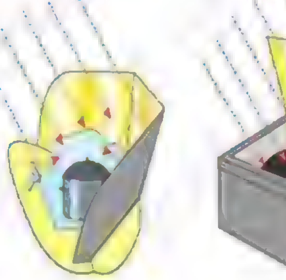


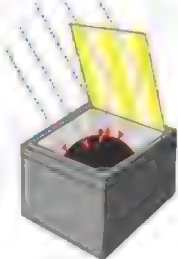
Complete the following energy chain:





The following figure represents a solar oven:





(a) What is the type of mirrors that used in this device?
Concave mirror (convergent mirror) .

(b) What is the importance of this device?
It used to collect and focus sunrays to heat pot and cook food.



The following figure represents a solar heater



(a) The input energy is solar energy

(b) The output energy is thermal energy

10

Study the opposite figure then complete the following sentences:



(a) This figure represents dam

(b) It controls flow of water and increases the potential energy of water

(c) When water fall water turbines rotate, it generates electricity

11

Study the opposite figures then complete the following:

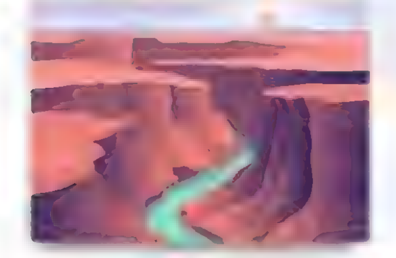


Fig (1)



Fig (2)

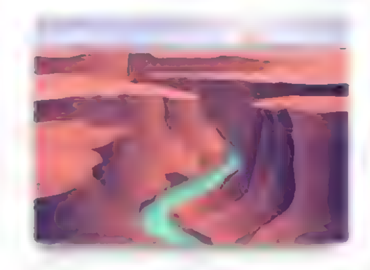


Fig (3)

(a) Figure (1) and (3) changes very slowly while figure (2) changes very quickly

(b) After some hours, figure (2) disappears completely.





(a) This figure represents canyons that formed in hundreds of years

(b) weathering and erosion processes help in the formation of it.



Study the opposite figures then complete the following:

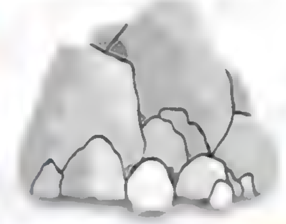



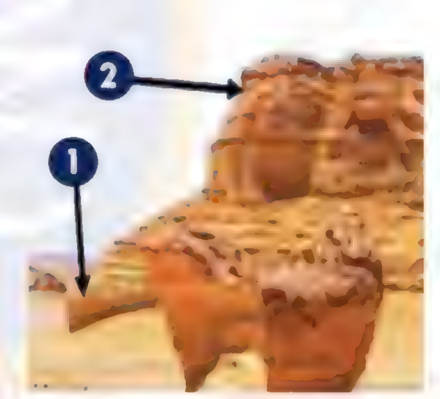


Fig (1) Fig (2) Fig (3) Fig (4)

(a) Figure (4) represents living organism cause mechanical weathering.
(b) Figure (1) represents living organism cause chemical weathering.
(c) Oxygen gas has a bad effect on rocks in figure (3).
(d) Oxygen gas has a bad effect on rocks in figure (3).



Study the opposite figures then complete the following:



(a) This place contained a (river- sea) in the past.
(b) The oldest rocks are found in number (1-2)
(c) Fossils of turtles exist in (1-2)

تم بحمد الله ،

بسم الله الرحمن الرحيم " إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ إِنَّا لَا نُضِيعُ أَجْرَ مَنْ أَحْسَنَ عَمَلًا " صدق الله العظيم

Revision on (Concept 3.1):- Device & Energy

1 Complete the following sentences:

1. The……………changes electric energy into sound energy.
2. The electric heater consumes………energy and produces …………energy
3. Electric energy is the energy…………..in a TV.
4. When your cell phone is out of charge, you must rechange its……………. to operate it again.
5. A battery stores ……………energy inside it, while it produces ……….energy.
6. It takes a spacecraft about …………..or more to reach Mars' surface.
7. In the electric heater …………energy is considered as input energy, while thermal energy is considered an ………………energy.
8. The washing machine changes …………….energy into …………and…………………..energies.
9. In any energy chain some of energy is lost in the form of ……………..
10. The electric lamp converts …………energy into light and heat.

2 Put (√) or (x)

1. Energy can't be changed from one form to another. ( )
2. TV consumes electric energy. ( )
3. TV and cellular phones produce light energy only. ( )
4. Solar cells produce heat energy. ( )
5. Aspacecraft needs about 6 years to arrive on Mars. ( )
6. Robots on Mars move by special long-term batteries. ( )
7. Energy is neither created nor destroyed but it can be changed. ( )

3 Give reason for:-

1. When you press on the spring of soap dispenser, the soap moves upward. (according to the change of energy).

………………………………………………………………………….

2. When you rub your hands together, you feel warmth.

……………………………………………………………………………………….

3. Not all the energy that enters the energy chain reaches the device completely.

……………………………………………………………………………………………………….

4. During running there is a change of energy that takes place inside your body.

………………………………………………………………………………………………………..

5. You feel heat , when you put your hand near a lighted light bulb.

……………………………………………………………………………………………………

6. Mars Curiosty rover need a source of energy.

……………………………………………………………………………………………….

4 What happens if... ?

1. you switch on an electric bulb

……………………………………………………………………………………………………..

2. you rub your hand. (according to the change of energy)

………..

3. The charge of remote controlled toy car batteries is running out.

………………………………………………………………………………………………………..

4. Solar calculators were exposed to the sunlight.

………………………………………………………………………………………………………

5 Choose the correct answer:

1. The input energy is the energy ……………………….device.

a. destroyed | b. consumed by
c. produced from | d. resulted from

2. In the washing machine, the …………..energy changes into kinetic and sound energies

a. light | b. electrical
c. thermal | d. potential

3. You feel warm when you rub your hands together, because ………………. energy changes into thermal energy.

a. kinetic | b. light
c. electrical | d. sound

4. Plants can convert the light energy from the Sun into…………energy which is stored inside the plant in the form of sugar

a. sound | b. electrical
c. chemical | d. kinetic

5. Electric wires are made of…………………

a. copper. | b. paper,
c. wood. | d. glass.

6. Which form of energy is not used or produced when you turn on an electric bulb?

a. Electrical. | b. Light.
c. Thermal. | d. Sound.

7. Some energy is lost in most device in form of ……………….energy.

a. electrical | b. thermal | c. sound | d. Kinetic

6 Write the scientific term :

1. Energy can neither be created nor destroyed, but only converted from one form to another.	(.......................)
2. The energy used to play a drum.	(.......................)
3. The energy that is stored in both batteries and food	(.......................)
4. The wasted energy when using a mobile phone for a long time.	(.......................)
5. The source of energy in some toys that stores chemical energy.	(.......................)
6. A robotic vehicle which is designed to explore the surface of Mars.	(.......................)
7. The main source of energy for most forms of energies on Earth.	(.......................)

7 Study the following figure then amswer the following questions :



❶ ❷ ❸

1. The batteries of figure (...........) are too far from any plugs or stores.

2. The batteries if figure (............) can be charged with electricity.

3. The battery of figure (.............) can be replaced by new batteries

Revision on (Concept 3.2):- About fuel

1 Choose the correct answer:

1. …… is considered as the main resource of energy on the Earth's surface,

a Gasoline b. The Sun c Natural gas d. The moon

2. All the following are renewable resources of energy, except……………

a. natural gas. b. water. c. the Sun. d. wind.

3. Ancient people use ………….. as a form of fuel, before discovering gasoline,

a. electricity b. water c. wind d. wood

4. Wood is considered a ………………

a. biofuel. b. fossil fuel. c. liquid fuel. d. gaseous fuel.

5. Coal is formed under the Earth's surface from the remains of……………

a. dead animals. b. dead plants.

c. dead humans. d. dead insects.

6. Extreme heat and pressure under the Earth's surface has an important role in forming……………………..

a. glass. b. wind. c. fossil fuel. d. biofuel.

7. All the following are forms of fossil fuel, except……………

a. water. b. coal. c natural gas. d. oil..

8. Hydroelectric energy is generated from ……………………….

a. waterfalls only. b. waterfalls and dams,

c. biofuel only. d. biofuel and fossil fuel

9. The non-renewable resources of energy, take……………..to be formed.

a. a short period of time　　b. a very long period of time

c. few minutes　　d. few hours

10. …………………..Is produced from the decomposition of plants or trees.

a. Petroleum　　b. Natural gas

c. coal　　d. Benzene

11. Ethanol is produced from …………………..

a. grass　b. corn　c. coal　d. a & b

11. Fossil fuel is extracted from ………………………….

a. mountains　　b. forest!

c. rivers　　d. underground earth

12. ………….is the oldest fuel that used in all the world.

1 a. Coal　　b. Wood

c. Petroleum　　d. Natural gas.

13. ………………… is an example of biofuel

a. Petroleum　b. Coal　c. corn　b. Natural gas

14. …………………….moves the turbines in electric power stations,

a. Air　b. Steam　c. Water　d. No correct answer

15. Petroleum oil is considered as a……………….source of energy.

a. permanent　　b. renewable

c. non-renewable　　d. no correct answer

16. Water is considered as a……………………….source of energy.

a. permanent　　b. renewable

c. non-renewable　　d. no correct answer

2 Give reason for:-

1. Water and wind are considered as renewable resources of energy.

……………………………………………………………………………………………

2. Coal and gasoline are considered as non-renewable resources of energy.

……………………………………………………………………………………………

3. Using wood of trees as a fuel has negative effects on the environment.

……………………………………………………………………………………………

3 What happens when..?

1. The amount of gasoline in a car decreases. ……………………………………
2. The remains of dead living organisms were buried under the Earth's surface over millions of years. …………………………………………………………

---

4 Complete the following sentences :

1. We can use some forms of fuel such as…………..and……….. in warming houses

2. Water and…………….are considered from resources of energy, while coal and………………are from non-renewable resources of energy.

3. The natural resources that can be replaced shortly after being used are called…………resources of energy.

4. The natural resources that are consumed at a rate faster than they can be renewed are called ………………………resources of energy.

5. Different forms of fuel can be classified into two main types which are ………..and …………………..

6. The main source of fuel is the ……………

7. In electric power station, we use fossil fuel such as oil and natural gas which are considered as ……………..resources of energy.

8. The hydroelectric energy is considered as…….resource of energy, and we can get it from…………….and dams to generate electricity.

9. When fuel is burned in an electric power station, it produces……………. energy to heat water.

10. The electric generator changes …………….energy into…………….energy.

11. During generating electricity in electric power stations, the hot water produces…………….which is used to turn turbines.

---

5 Correct the underlined words:

1. Fossil fuel include oil, coal and **wood**.
2. After death of living organisms, their remains are buried under the Earth's surface and exposed to extreme pressure and **cool**.
3. Hydroelectric energy, is one of **non-renewable** energy resources.
4. **Moon** is the main source of energy on earth.

6 Write the scientific term:

1. It is the main source of most forms of energy on the Earth's surface.	(………………)
2. The form of energy that is produced as a result of burning of wood and coal.	(………………)
3. It is any substance which produces thermal energy on burning.	(………………)
4. Natural resources of energy, that take a short period of time to be renewed.	(………………)
5. Natural resources of energy, that take a very long period of time to be formed.	(………………)
6. It is the main source of most forms of energy on the Earth's surface.	(………………)
7. The form of energy that is produced as a result of burning of wood and coal.	(………………)
8. It is any substance which produces thermal energy on burning.	(………………)

Revision on (Concept 3.3):- Renewable energy resources

1 Choose the correct answer:

1. Coal is the source of energy in a ....

a. gas oven

b. fireplace

c. petroleum oven

d. solar heater

2. ....were used to grind grains.

a. Solar panels

b. Windmills

c. Fireplaces

d. Gas ovens

3. The wind movement has ....energy which moves the windmill's blades.

a. kinetic

b. solar

c. thermal

d. potential

4. The solar energy is converted into.............energy in greenhouses.

a. electrical

b. sound

c. thermal

d. potential

5. Greenhouses allow farmers to plant crops that only grow in ....

a. polar climate.

b. warm climate,

c. absence of sunlight.

d. absence of water.

6. Using curved ....sheets in cooking food is one of the benefits of using the solar energy.

a. paper

b. plastic

c. mirror

d. wooden

7. All the following are renewable energy resources <u>except</u> …………

a waterfalls. b. coal.

c. the Sun. d. wind.

8. Kinetic energy created by ……………movement is used to rotate the blades of windmills.

a. the moon b. stars

c water d. wind

9. When the windmill blades rotate, this causes wind turbines to rotate and generating ……………energy

a. electrical b. solar

c. chemical d. potential

10. The electrical energy is transmitted from windmills to houses through ………

a. water. b. wind.

c. coal. d. wires.

11. The electrical energy that is transmitted to houses can operate all the following devices <u>except</u> ___

a. washing machine. b. manual mixer.

c. electric fan. d. electric heater.

12. Water of rivers stores great ……….at the top of slopes.

a. kinetic energy

b .potential energy

c. electric energy

d. light energy

13. **When the water of rivers falls from a high slope…………….**

a. potential energy is converted into kinetic energy

b. kinetic energy is converted into potential energy

c. potential energy is converted into electric energy

d. kinetic energy is converted into electric energy

14. Potential energy is converted gradually into kinetic energy when the …………….

a. dam stops the water

b. dam allows water to pass

c. water falls from a high slope

d. b &c

15. Water flows through turbines in dams to generate ……….energy.

a. electrical b potential

c. solar d. light

16. In water turbines, the ……………. energy of water is changed into electrical energy.

a chemical b. kinetic c thermal d. light

---

2 Give reason for:-

1 The number of windmill blades affect its efficiency.

………………………………………………………………………………………..

2 Kinetic energy affects the speed of windmill rotation.

…………………………………………………………………………………………..

3 The direction of wind blow affects the speed of windmill rotation.

....

3 Put (√) or (x)

1. You can create a thermal energy, when you burn some pieces of wood.	( )
2. There is a stored chemical energy inside the food we eat.	( )
3. The input energy in a hair dryer is the chemical energy.	( )
4. We can convert the solar energy into different forms of energy.	( )
5. Coal can be used to produce electrical energy.	( )
6. Coal, gasoline and wood are considered as renewable resources of energy	( )
7. The non-renewable resources of energy include coal, gasoline and water.	( )
8. Energy can be changed from one form to another.	( )
9. You feel cold when you approach your hand to an electric bulb.	( )
10. Electric lamps convert electric energy to light energy.	( )
11. Modern windmills are use to crush the grains	( )
12. During the flowing of rivers water downhill, the chemical potential energy of water is converted into kinetic energy.	

4 Write the scientific term:

1. A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy. (…………………)

2. A process in which water changes into water vapor. (………… ….)

3. The evaporation and condensation of river water, then returning back to rivers through rain falling. (……… ……….)

4. It changes the kinetic energy to electric energy. (………… ……..)

5. A mill that uses the power of flowing air to generate electricity. (……………)

6. An energy that is generated from windmills and is transmitted through wires to houses and factories

7. A Type of electric energy generated by water turbines in dams

---

5 Correct the underline word:

1. Water turbines generate electricity by using the energy of **wind** movement.

2. The **high** cost of producing energy in windmill is one of its advantages.

3. The difference in temperature between the hot and cold air causes air to **stop.**

4. During the flowing of rivers water downhill, the **chemical potential energy** of water is converted into kinetic energy

6 What happen if ………..?

1. Water turbines are placed in a dam.

2. Potential energy of water increased in a dam containing water turbines.

………………………………………………………………………………………………

Model Exam

(1)Choose the correct answer:

1. Curiosity is the most famous ………………on mars

a. Application b. Rocket

c Robot d. space crafts.

2. Sound and……………energies are from output energies when operating the mobile phone.

a. electrical b. potential c. chemical d. light

3. ……………..is (are) example(s) of biofuel.

a. petroleum b. Natural gas

c- Corn d. coal

4. Modem wind mill is ……………than old wind mill.

a. taller b. shorter

c. heavier d. no correct answer

---

(2) Write the scientific term:

1. The input energy in hand bell.	(………………)
2. It burns inside car engine to make the car moves	(………………)
3. A turbine that converts the energy of flowing or falling water into electrical energy.	(………………)
4. The energy produced from batteries.	(………………)
5. It is a type of fossil fuel that is produced from dead marine animals.	(………………)

(B) Give reason:

1- Petroleum is a non-renewable source of energy.

(3) Complete the following table

	Used energy	Produced energy
	…………………………	………………………
	…………………………….	……………………..

(b) What happen if ………?

The charge of remote controlled toy car batteries is running out.

……………………………………………………………………………………………………

(4) Correct the underline words

1. Curiosity is a robotic vehicle that is designed to explore the surface of **moon**

2. Hydroelectric energy is one **of non-renewable** energy.

3. Small solar panels are used to supply one light with **sound** energy.

4. Toy cars depend on the **fuel** as a source of energy.

(B) Use the following word to compete the following chain:

(Thermal - Chemical - Kinetic - Electrical - Sound - Light)

1. The energy chain of burning some branches of a tree:

Solar energy → ……………….energy → ……………..energy and…………….energy

Revision on (Unit 4) concept 4.1 Breaking down and moving rocks

1 Choose the correct answer:

1. The formation of canyons takes……………………..

a. few minutes b. few hours.

c. few days. d. many years.

2. Rocks can be broken down into small particles by exposure to of the following except ……………………

a. moon b.. Water waves c. a rainwater. b. wind

3. Rusting of a statue is an example for the action of…………………process

a. deposition b. erosion

c. mechanical weathering d. chemical weathering

4. When water freezes, it expands. This means that……………

a. it will evaporates. b. its temperature increases,

c. its volume increases. d. its volume decreases.

5. All the following are from causes of chemical weathering, except…

a oxygen. b. water. c. acid rains. d. clouds.

6. Breaking of statues is an example of …………………..

a. erosion. b. weathering. c. deposition. d. sedimentation.

7. Limestone caves are formed due to the combination of……………

a. dissolved minerals. b. red-colored rusts,

c. living organisms. d. acid rains.

8. Lichens produce………on rocks that dissolve minerals found in these

a. oxygen. b. acids. c. water. d . rain.

9. All of the following are processes that change the earth surface except,………………

a. digestion b. erosion c weathering. d. digestion

10. ………………..is formed where rivers meet a sea .

a.delta b. mountain c. volcano d.canyons

11. Each of the following plays a role in erosion process except……………..

a. blowing wind. b. water floods

c.sunlight d. Earth's gravity

12. As a result of breaking down of……………. ,sand is formed.

a rubber b. plastic c. rocks d.glass

13. The breakdown of rocks either mechanically or chemically is known as…………….

a. photosynthesis. b. weathering. c. erosion d. deposition

2 Complete the following:

1. The type of weathering in which the rocks are broken down due to the presence of plant roots is known as.............weathering.

2. Cracks caused by heating and cooling of water represent a type of weathering is known as ....weathering .

3. When strong ....blow in the desert, large sand dunes are formed.

4. The origin of sand is the breaking down of some types of ....

5. Some tiny plant –like organisms produce ....that can dissolve minerals of rocks.

6. sediments are mixed with the remains of ....and..............forming layers at the bottom of oceans and lakes.

7. Gentle winds can form small ....like that present in seashore.

8. The type of weathering in which the rocks are broken due to acid rains is known as.........................weathering.

9. Some tiny plant-like organisms are called ....produce acid that can dissolve mineral rocks causing its breaking down.

10. Shaping the Earth started by weathering, then........ and ends with.......................

11. Breaking a statue is an example of ....weathering, while rusting

iron statue is an example of..............weathering.

12. From causes of chemical weathering, ...,.....................,and ....

13. Wind,...........and gravity are natural factors that control erosion process.

3 Write the scientific term

1. Process in which rocks are broken down into smaller particles (.......................)
2. Process in which sediments move from one place to another (.......................)
3. The condition of atmosphere at specific time and place (.......................)
4. Types of caves formed when dissolved minerals in rocks combine again in new shapes (.......................)
5. A gas in the air combine with the iron of some rocks causes its weakness. (.......................)
6. Process in which the sediments are dropped in a new location by wind or water. (.....................)
7. They are deep valleys carved by flowing water. (.......................)

4 Give reason:

1. Iron in rocks may rust.

   ....

2. Water play an important role in the formation of limestone caves.

5 What happen?

1. A river carries sediments meet a sea. ....

2. More and more sediments settle on bottom of oceans and lakes and in desert. ....

Revision on (Unit 4) concept 4.2 Changing Landscapes

1 choose the correct answer:

1. A canyon may be formed due to the effect of ....

a. erosion and deposition
b. Weathering and erosion
c. weathering and deposition
d. deposition only

2. A canyon can be formed by the effect of..............................

a. water only. b. wind only. c. water and wind. d. water and sunlight

3**. The large skeletons of whales that are present in Wadi Al-Hitan considered as an example of ....**

a. fossils. b. rocks. c. sediments. d. formations

4. If the rain falls over a small canyon for several times per year,...

a. its depth increases.
b. its depth decreases.
c. it becomes flat.
c. it is not be affected.

5. Wadi Nakhr in Oman is formed because water move...........away by the effect of erosion.

a. sunlight b. wind c. sediments d. mountains

6. The shape of the valley depends upon all of the following factors, <u>except</u> ...

a. type of rocks.
b speed of the river.
c size of rocks
d. size of the river.

7. When the water of a river travels downhill on a steep slope, its speed........

a. stays constant.
b. decreases to half.
c. decreases to quarter.
d. increases.

8. Among the examples of fast changes of landforms is the formation of……………

a. mudslides. b. canyons. c . valleys. d. mountains.

9. Rivers that flow fast can cause more………..than rivers with slow flow.

a. chemical weathering b. erosion

c. deposition d. formation

10. When the speed of water stream that is run over a mountain increases the rate of erosion will

a increase. b. be constant.

c decrease. d. become slower.

11. Deltas are formed when the speed of river water…………………

a. increases. b. decreases,

c. doesn't change. d. become faster.

12. The delta is formed when the river stream entering all of the following, <u>except</u>…………………..

a. a lake. b. a sea.

c. a mountain. d . an ocean

13. Nile River Delta is characterized by the presence of…………… that allows the planting of different types of crops.

a. mountains b. sand dunes

c. polluted soil d. fertile soil

14.40 million years ago, Wadi- Al-Hitan was covered by………………..

a. rocks. b.sand c. sea. d. mud.

15. Among the examples of sedimentary rocks which present in Wadi Al-Hitan is/are ………………………………….

a. sandstone only. b. limestone only.

c. both sandstone and limestone d. neither sandstone nor limestone

16. All the following skeletons can be found in Wadi Al-Hitan, <u>except</u> the skeleton of…………………………….

a. whales. b. human. c. turtles. d. crocodiles

---

② Put true or false:

1. The separated layers of sedimentary rocks are called sediments. ( )

2.Wadi Al-Hitan is formed from sedimentary rocks such as sandstone and limestone. ( )

3.Wadi Al-Hitan is called by this name due to the presence of fossils of large skeletons of whales. ( )

③ Complete the following sentences using the words below:

(deltas - canyons - sand dunes - slowly — rivers — wind - quickly)

1…………are deep valleys with steep sides.

2……………are fan-shaped landforms where rivers enter lakes or oceans.

3……………are hills that are made of sand.

4………. often what causes the formation of both valleys and canyons.

5-………and sand work together as forces of erosion in the desert.

6.During a storm or a rockslide, erosion can happen……….

7. In general, erosion happens………………………

4 Give Reason

1. Geologists study the layers of rocks in the canyon walls.

   ………………………………………………………………………………………….

2. Plants of wetland areas help in formation of deltas.

---

5 What happens if...?

A river stream enters a sea

………………………………………………………………………………………….

6 Write the scientific term:

1. It is a special type of valleys which its sides are steep. (………………)
2. It is a very large and steep canyon which is found in United States of America. (……………..)
3. They ore lowland areas in between the mountains and have gently sloped sides. (……………….)
4. A land area that is formed by deposition process when a river enters a lake or a sea. (…………………..)
5. They are deep valleys carved by flowing water. (…………………..)
6. Process in which small broken rocks move from a place by the help of wind or water. (………………..)
7. Process in which the moving sediments are dropped in a new place. (…………………)

Model Exam

1 (A) choose the correct Answer:

1.Some energy is lost in most device in form of ……………….energy.
a. electrical b. thermal c. sound d. Kinetic

2. As a result of breaking down of…………….. ,sand is formed.

a rubber c. rocks b. plastic d.glass

3. Kinetic energy created by ……………movement is used to rotate the blades of windmills.

a. the moon b. stars c water d. wind

4. ……………..is (are) example(s) of biofuel.

a. petroleum b. Natural gas

c- Corn d. coal

(B) Give Reason

Water and wind are considered as renewable resources of energy.

…………………………………………………………………………………………………

---

2 Write the scientific term: (A)

1. They are deep valleys carved by flowing water. (……………………)

2. Process in which the moving sediments are dropped in a new place. (……………)

3. Natural resources of energy, that take a very long period of time to be formed. (………………….)

4. The energy produced from batteries.(…………………….)

(B)What happen if ………..?

1.Sea creatures were buried under the Earth's surface over millions of years.

……………………………………………………………………………………………

2. You turn on the TV (according to the change of energy)

❸ Complete the following sentences:

1. There are two types of weathering which are …………weathering and…………..weathering.

2. Dams control the flow of……….that causes the increase of the……………. energy of water.

3. Sand dunes are in continuous motion due to the movement of …………….

(B) Mention the input and output energies of the opposite device

Input energy: ……………………………….

Output energy : …………………………….

Input energy: …………………………

Output energy : ……………………..

Input energy:…………………………

Output energy : ……………………..

Revision on (Concept 3.1):- Device & Energy

1 Complete the following sentences:

1. radio	2. electric- heat	3.consumed	4. battery
5. chemical - electric	6. 6 months	7. electric- output	8. electric- sound- kinetic
9. heat	10. electric		

2 Put (√) or (x)

1.x	2.√	3. x	4.x
5.x	6. .√	7. .√	

3 Give reason for:-

1. Because the potential energy changed into kinetic energy.
2. Because the kinetic energy changed into thermal energy because of friction.
3. Because some of energy is lost in form of heat energy.
4. Because the chemical energy in food is changed into kinetic energy.
5. Because the electric energy is changed into light and heat.

4 What happens if... ?

1. Electric energy is changed into light and heat.
2. Kinetic energy changed into thermal energy
3. The car will not move.
4. Solar energy is converted into electric energy that operate the calculator.

5 Choose the correct answer:

1. b	2. b	3.a	4. c	5. a	6. d	7. b	

6 Write the scientific term :

1. law of conservation of energy	2. kinetic energy	3. chemical	4. thermal	5. battary
6. Mar rover curiosity	7. sun			

7- 1. 1 2. 3 3. 2

Revision on (Concept 3.2):- About fuel

1 Choose the correct answer:

1. b	2. a	3. d	4. a	5. b	6. c	7. a
8. b	9. b	10. c	11.d	12. b	13. c	14. b
15. c	16. b					

2 Give reason for:-

1. Because it can be replaced soon after it is used.
2. Because used at a rate faster than they can be replaced.

3. Cutting down of trees, and removal of forest so it will affect the environment.

3 What happens when..?

1. The car will stop.

2. It will form fossil fuel.

4 Complete the following sentences:

1. coal- wood	2. wind- natural gas	3. renewable	4. non-renewable	5. fossil fuel- bio fuel
6. the sun	7. non-renewable	8.renewable-waterfalls	9. steam	10. kinetic-electric
11. steam				

5 Correct the underlined words:

1. natural gas 2. Heat 3. Renewable 4. The sun

6 Write the scientific term:

1. the sun	2. thermal energy	3. fuel	4. Renewable	5. Non-renewable
6. sun	7. thermal	8. Fuel		

Revision on (Concept 3.3):- Renewable energy resources

1 Choose the correct answer:

1. b	2.b	3. a	4.c	5. b	6.c	7. b
8. d	9. a	10. d	11.b	12. b	13. a	14. d
15.a	16. b					

2 Give reason for:-

1. Because, hen the number of blades decreases, they rotate faster, so the efficiency of wind turbine increases.

2. Because, when the kinetic energy of **wind increases,** the blades rotate faster, so the efficiency of wind turbine increases.

3. Because. When the wind blows from the side of wind turbine, the blades rotate faster, so the efficiency of wind turbine increases

3 Put (√) or (x)

1. √	2. √	3. x	4. √
5. √	6. x	7. x	8. √
9. x	10. √	11. √	12. x

4 Write the scientific term:

1. watermill	2. evaporation	3. water cycle
4. turbines(dynamo)	5. windmill	6. electric energy
7. hydroelectric energy		

5 1. water 2. Low 3. move 3.grvtitiona potential

6 What happen if ....?

1. it will change the kinetic energy from falling water to electrical energy.

2. The potential energy will be changed into kinetic then onto electric energy in turbines.

Revision on (Unit 4) concept 4.1 Breaking down and moving rocks

1 Choose the correct answer

1. d	**2. a**	**3. d**	**4. c**	**5. b**	**6.b**
7. a	**8. b**	**9. a**	**10.a**	**11.c**	**12.c**
13. b					

2 Complete the following:

1. mechanical	**2. mechanical**	**3. wind**	**4. rocks**
5. acid	**6.plsntd, animals**	**7. dunes**	**8. chemical weathering**
9. lichens	**10. erosion-deposition**	**11. mechanical-chemical**	**12. oxygen- acid rains**
13. water			

3 Write the scientific term

1.weathering	2. erosion	3. weather	4. limestone cave
5. oxygen	6. deposition	7. canyons	

4 Give reason:

1. Because it may combine with oxygen in air.

2. Because water dissolves minerals in rocks, then the dissolved mineral will combine again forming new shape.

5 What happen?

1. It will form a delta

2. Sedimentary rocks are formed.

Revision on (Unit 4) concept 4.2 Changing Landscapes

1 choose the correct answer:

1. b	2. a	3. a	4. a
5. c	6. c	7.d	8.a
9. b	10.a	11.b	12. c
13. d	14. c	15.c	16. b

2 Put true or false:

1. x 2. True 3. True

3 Complete the following sentences using the words below:

1. Canyons 2. Delta 3. Sand dune 4. Rivers 5. Wind 6. Quickly 7. Slowly

4 Give Reason

1. To know how the landscapes looked like in the past.

5 What happens if...?

1. Delta is formed

6 Write the scientific term:

1. canyons	2. Grand canyon	3.vallys
4. delta	5. canyons	6. erosion
7. deposition		

Model Exam

1. A

1. Thermal 2. Rocks 3. Wind 4. Corn

B . Because it can be replaced soon after it is used.

2. Write the scientific term

1. canyons 2. Deposition 3. Non-renewable resource 4. Electric energy

What happen if..?

1. Oil will be formed

2. The electric energy is changed into light and sound energies.

3. Complete the following :-

1. mechanical- chemical

2. waterfalls – gravitational potential energy

3. wind

(B)

1. Chemical – kinetic

2. Electric – light and thermal

3. Electric – thermal

Worksheet (1)

- **Choose the correct answer:**

1. Toy cars need energy to do all the following functions, except...........

a. moving forward and backward. b. rotation in a circle

c. moving right and left. d. rotation around the moon.

2. In the battery of a toy car .... energy changes into electrical energy

a. chemical b. sound c. light d. thermal

3. Electrical energy produced from a toy car battery can be changed into ....and .... energies.

a. mechanical - sound – solar b. mechanical - thermal - solar

C. mechanical - sound – thermal d. sound - thermal - solar

4. The energy source in a toy car is the ....

a. engine. b. tires. c. battery. d. fuel

5. It takes several........... for a spacecraft to travel from Earth to Mars.

a. months b. seconds c. minutes d. days

6. Curiosity rover is designed to explore.

a. the moon. b. the Sun. c. Earth planet. d. Mars planet.

- **Correct the underlined words:**

1. The solar energy produced from the moon can be converted into different forms of energy. (.........................)

2. Toy cars depend on fuel as a source of electrical energy. (.........................)

3. Curiosity is a robotic vehicle that is designed to explore the surface of moon. (..............................)

- **Complete the following sentences :**

1. The energy can be .... From one form to another.
2. Remote controlled toy cars changes..................energy stored in its batteries into........... energy that in turn changes into.................. energy which is used to Move the car.
3. To operate an electric mixer we use ....Energy.
4. When your cell phone is out of charge, you must rechange its..............To operate it again.
5. Some calculators can change solar energy into......................Energy by using the Sunlight.

- **Put (√ or (x) :**

1. Energy cannot be transformed from one form to another. (   )
2. We can convert the solar energy into different forms of energy. (   )
3. We can continue to move a toy car even after its battery runs out. (   )
4. Curiosity is a vehicle that travels across the surface of the planet Mars. (   )
5. Mars is located a few meters away from Earth. (   )
6. Without electrical energy, Mars rover curiosity cannot move or communicate With Earth. (   )

- **Give reasons for:**

1. Some calculators use the sunlight to be operated.
   ....
   ....
2. A remote controlled toy car needs battery to move from one place to another.
   ....
   ....

Worksheet (2)

- **Write the scientific term for each of the following:**

1. The main source of energy for most forms of energies on Earth.(……………………….)
2. The energy produced when the wood of trees is burned. (……………………….)
3. It is produced from the remains of dead trees buried under the Earth's surface over millions of years. (……………………….)
4. The energy that is used to operate an electric heater. (………………………….)
5. The energy stored inside the coal. (………………………….)

- **Complete the following sentences by using the words from brackets:**
  (electrical – kinetic -sun – light – thermal – kinetic – potential – sound – heat – kinetic – thermal)

1.The energy that is produced from the battery used to operate a toy car is …………..

2. When you press on the soap dispenser, you turn the ………….. energy stored in its spring into…………. energy that moves the soap upward.
3. The energies that are produced from the washing machine are…………… energy and …….. energy.
4. When you rub your hands together, the ………….. energy is converted into………..energy.
5. In any energy chain, some of the energy is lost in the form of…………..
6. The electric lamp converts electrical energy into . ……….. energy and …. ……… energy.
7. The…………….. is the primary source of energy that is transferred to the food in the Form of chemical energy.

- **What happens if…?**

1) You burn a piece of wood. (according to the change of energy).

……………………………………………………………………………………………

……………………………………………………………………………………………

2) You shake a small bell with your hand. (according to the change of energy).

……………………………………………………………………………………………

……………………………………………………………………………………………

- **Put (✓) or (x):**

1. In the soap dispenser, potential energy changes into kinetic energy. ( )
2. In the electric blender, sound energy changes into electrical energy and kinetic energy. ( )
3. Most of energy chains starts with the moon. ( )
4. Light energy from the Sun causes trees to grow. ( )
5. Both hair dryer and washing machine depend on the same kind of energy to be operated. ( )
6. In the electric power stations, the sound energy produced from burning of coal can be changed into electrical energy. ( )
7. There is energy loss when energy is transformed from one form to another. ( )
8. Energy can be destroyed inside some devices. ( )
9. Electric bulb depends on chemical energy to be operated. ( )
10. Both electric bulb and electric heater produce thermal energy. ( )

Worksheet (3)

- **Write the scientific term for each of the following:**

1. The energy produced from playing guitar. (…………………………….)
2. The energy produced from the electric lamp and affects our eyes. (………………………………….)
3. The energy used to play a drum. (……………………………….)

- **Choose the correct answer:**

1. In the electric water kettle, the electrical energy changes into............... energy that can warm the cold water inside it.
   a. sound. b. thermal. c. light d. kinetic.
2. Some kinetic energy is converted into…………..energy due to friction of bike's tire With the road.
   a. light b. electrical c. potential. d. thermal
3. Both hair dryer and electric water kettle produce…………… energy
   a. Chemical b. thermal C. light d. potential
4. When you turn on a light bulb, the electrical energy travels through. ....until reaching the bulb.
   a. wires. b. glass c.wood d.plastic.

- **Complete the following sentences:**

1. When you ride a bicycle, the …………….energy stored in your body is converted into……………. Energy which causes the bicycle to move.

2. The electric lamp converts.............. energy into light energy and.................energy.

3.The change of electrical energy into sound energy in the radio is an example that proves the law of ……………………

- **Give reasons for**

  1.You feel heat, when you put your hands near a lighted electric lamp.

  ……………………………………………………………………………………………………

  ……………………………………………………………………………………………………

  2- The presence of batteries inside a toy car.

  …………………………………… ………………………………………………………………

  ………………………………………………………………………………………………

- **What happens if……?**
  - You put your hands near the lighted lamp .

  ……………………………………………………………………………………………………

  ……………………………………………………………………………………………………

Worksheet (4)

- **Put (✓) or (x) :**

1. The produced sound energy helps the hair dryer to do its function. ( )
2. In waterfalls, the water that falls down has a kinetic energy.( )
3. The input energy in a hair dryer is the chemical energy. ( )
4. The energy chain of a burning candle is :Chemical energy converted into Thermal energy. ( )

- **Write the scientific term:**

1. The wasted energy when using a mobile phone for a long time. (.......................)
2. A kind of energy that is produced from the electric heater and burning coal. (...........................)
3. The energy that is produced from the blender and helps it in doing its job. (.............................)
4. The energy that is produced from the electric power stations and flows through wires. (...............................)

- **Choose the correct answer:**

1. The input energy when using the hair dryer is the .... Energy.

a. electrical   b. potential   c. kinetic   d.thermal

2. During the running of a player, the chemical energy inside his body is converted Into .... and............energies.

A. potential-light.   B. kinetic- light.   C . thermal- kinetic.
D. thermal – light

3. The output energy when playing drums is the .... energy.
   a. chemical   b. light   C. sound.
   d. potential
4. When a piece of coal is burnt,........................ Energy is produced.

a.Thermal   b. Kinetic   c. Sound   d. Potential

- **What happens if... ?**

1- You turn on an electric fan. (according to the change of energy).

....

....

2- use a mobile phone for a long time. (according to the wasted energy).

....

....

- **Give reasons for:**

- Thermal energy in mobile phone is considered as a wasted energy.

....

....

- Sound energy and thermal energy are considered as wasted energy in the blender.

....

....

<u>Worksheet (5)</u>

- **Correct the underlined words :**

5. Fuel is the substance that produces <u>electrical energy o</u>n burning.
   (..........................)
6. We need <u>sound energy,</u> for cooking foods and warming houses.
   (............................)

- **Put (✓) or (x) :**

5. Both coal and wood produce energy on burning them. (   )
6. You need gasoline to move a bicycle.   (   )
7. We cannot drive a car that doesn't contain fuel . (   )
8. As the speed of the car increases, the amount of used fuel decreases. (   )

- **Choose the correct answer:**

1- We can use the energy obtained from burning of wood in all of the following situations, <u>except</u> ....

a. warming houses.   b. operating television.   C. cooking food
d. boiling water.

2- All the following are found deeply under the Earth's surface, <u>except</u>................

a. Natural gas.   b. Coal.   c.Green plants.   d.Oil

3- Among forms of fuel that present in car fuel stations are...........

A. Gasoline and wood.   B. natural gas and coal.

C. wood and coal.   D. gasoline and natural gas.

- **Complete the following sentences :**

1) Gasoline burns inside a car engine to produce.................. energy that is changed Into...................energy which causes the movement of the car.
2) We can use some forms of fuel such as............and...............in warming houses.

- **Give reasons for:**

- fuel is very important for different means of transportation

....

....

-Sometimes the fuel indicator of a car goes down.

....

....

-Gasoline burns inside a car engine.

....

....

Worksheet (6)

- **Choose the correct answer**

1. All the following are forms of fuel, <u>except</u>.................
   A. wood.   b. natural gas.   C. gasoline.   d. glass.

2. All the following are renewable resources of energy, except.........

a. natural gas   b. water.   C. the Sun.   d wind.

3.Coal is formed under the Earth's surface........... from the remains of

A. dead animals.   b. dead plants.   C. dead humans.   d. dead insects.

4.Wood is considered as...........

a. biofuel.   b. fossil fuel.   C. liquid fuel.   d.gaseous fuel.

5.Extreme heat and pressure under the Earth's surface has an important role in Forming.

a. wood.   b. wind.   C. Fossil fuel.   d.biofuel

- **Complete the following sentences**

1. Water and.................are considered from............. resources of energy, while Coal and........,..........are from non-renewable resources of energy.
2. Wood chips and grass can be used to make a .... biofuel .
3. Different forms of fuel can be classified into two main types which are ....and..............
4. The natural resources that are consumed at a rate faster than they can be Renewed are called................ ....Resources of energy.

- **Correct the underlined words:**

1. We have to increase planting vegetables and fruits that need a large amount of water.(……………………….)
2. The moon is the primary source of both biofuel and fossil fuel.(……………………………)
3. We can use some animals, to make a liquid biofuel. (…………………………)
4. The rate of consumption of fossil fuel, must be increased. (……………………………)
5. Wood is a form of fossil fuel, that can be used in houses. (……………………………)

- **Put (✓) or (X) :**

1. Biofuel is one of non-renewable resources of energy. (   )
2. Extreme cooling under the Earth's surface, helps in the formation of oil . (   )
3. The Sun is the primary source of forming both biofuel and fossil fuel. (   )
4. We have to reduce the usage of the Sun as a source of energy. (   )
5. We can make a liquid fuel from grass and wood chips. (   )

- **Read the following paragraph, then choose the correct answer :**

Nowadays , we use gasoline and natural gas in means of transportation which are
considered fossil fuels, while we can use coal which is a fossil fuel and also wood
which is a biofuel in warming our houses.

1………………….is a non-renewable resource of energy, that is considered as a fossil fuel
And it is not used in means of transportation nowadays.

A. Water. B. Coal C. Wind d. Gasoline

2. A type of biofuel, which is used in warming houses and cooking food is ………….

a. wood b. wind. C. water. d. sand.

3. A type of fossil fuel, which is formed from decomposition of plant remains is ....

A. wood   b. sand.   C. wind.   d. coal.

Worksheet (7)

- **Put (✓) or (X) :**

1. We have to conserve all forms of fuel. (   )
2. Burning of fossil fuel inside electric power station produces Potential energy.   (   )
3. Turning off lights that we do not need, is a way to conserve electricity.   (   )
4. Any form of fossil fuel must be formed under the Earth's surface. (   )

- **Arrange the following steps to show how electricity is generated in electric Power station and sending it to houses and factories:**

(..........)Steam turns turbines that produce kinetic energy.
(..........)Fuel burns and produces thermal energy.
(..........)Electrical energy sent to houses and factories.
(..........)Water becomes hot and produces steam.
(..........)Turbines turn generator that produces electrical energy.

- **Write the scientific term:**

1-The matter that produces steam on heating, which is used to turn turbines in Electric power station. (.............................)
2-The type of fuel that is used inside the electric power station to produce Electricity . (...........................)
3-The device in the electric power station, that produces kinetic energy to operate Generators. (.............................)

- **Correct the underlined words:**

1. Fossil fuel include oil, coal and <u>wood</u>. (.........................)
2. Hydroelectric energy, is one of <u>non-renewable</u> energy resources. (...........................)
3. In electric power station, <u>water</u> turns turbines that produce kinetic energy.   (...............................)

4. After death of living organisms, their remains are buried under the Earth's surface and exposed to
5. extreme pressure and cool.(............................)

- **Choose the correct answer:**

1. Inside the electric power station, heating of .... produces steam.
   A. turbines b. generators C. water d. fuel
2. All the following are used to generate electrical energy, except.........
   A. Oil .B. natural gas. C. waterfalls. D. rain water.

3.Hydroelectric energy is generated from. ....
 a. waterfalls only. B. waterfalls and dams.
 C. biofuel only. d. biofuel and fossil fuel.

4. All the following are forms of fossil fuel, except ....
 a. water. b. coal. C. natural gas. d. oil.

5.Which of the following forms of fuels can be manufactured by man?
 A. Oil and natural gas. b. Oil and charcoal.
 C. Natural gas and ethanol. d. Charcoal and ethanol.

6.All the following factors play an important role in the formation of fossil fuel, except ....
 A. extreme pressure. b. extreme heat.
 C. The moon light. d. rocks and sediment.

Worksheet (8)

- **Choose the correct answer :**

1.Cars smog cause irritation of……… of humans.

a. stomach and eyes b. eyes and lungs c. small intestine
d. large intestine

2. Acid rain is formed when…………Combines with rain water.

A. oxygen gas b. carbon dioxide gas C. dust
d. sand

3. All the following are harmful effects of acid rain, except.

a. global warming. b. death of trees.
c. chemical changes in lakes. d. chemical changes in the soil.

- **Complete the following sentences by using the words :**
  (Acid - Fish - soil - carbon dioxide – smog)

1. Acid rain leads to chemical changes in the structure of lakes causing death of …………………
2. Burning of coal and oil produce …………………… gas .
3. Chemical changes in the structure of…………………Due to………….Rain .
4. Tiny particles found in …………………lead to air pollution .

- **Put (✓) or (X):**

1.Acid rain helps trees to survive. (   )

2. Global warming increases the decomposition of some rocks . (   )

3. Rain water can be mixed with both pesticides and carbon dioxide gas. (   )

- **Write the scientific term of each of the following:**

1. It is the system that its tissue is damaged due to breathing big amount of cars smog. (………………………)
2. It is a phenomenon in which the Earth's temperature increases when carbon dioxide gas increases in the air. (……………………………)
3.

Worksheet (9)

- **Give one example for each of the following :**

1. A method of conserving fossil fuel.

   ……………………………………………………………………………………………

2. Anon-renewable resource of energy.

   ……………………………………………………………………………………………

3. An advantage of using renewable resources to produce energy.

   ……………………………………………………………………………………………

- **Correct the underlined words:**

1. The amounts of <u>renewable resources</u> of energy are limited on Earth. (……………………)
2. Gases emitted from fossil fuel on burning <u>decrease</u> the temperature on Earth. (…………………)
3. Gases emitted from burning fossil fuel always <u>clear</u> the air. (………………………)

- **Give reasons for:**

1. To keep the air clean we must replace fossil fuel with renewable resources of Energy

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

- What happens if .. ?

1. Using renewable resources of energy instead of fossil fuel. (according to Earth's temperature)

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

2. People don't rationalize their using of fossil fuel.

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

Worksheet (10)

- Choose the correct answer:

1.All of the following are examples of renewable energy resources, except ………………

a. fossil fuel. b. waterfalls. C. wind. d. sunlight.

2. Gasoline is a non-renewable energy resource that is used inside a …………………

a. flashlight b. car engine C. electric fan d. Washing machine.

3. Some types of lamps depend on……………. ……as a renewable energy resource in order to do its function .

a. sunlight b. oil. C. coal d. natural gas

- **Correct the underlined words :**

1. Solar panels use <u>sound</u> energy to generate electricity. (……………………)
2. the <u>high</u> cost of producing energy in windmills is one of its advantages. (…………………)
3. <u>Manual</u> mixer depends on electricity to do its function. (…………………………)

- Put (✓) or (X):

1. Windmill turbines generate electricity by using the energy of water flow . ( )
2. Both modern wind turbines and old windmills are used to generate electricity. ( )
3. All devices need energy to do their functions. ( )
4. Both wind movement and water flow has kinetic energy. ( )
5. The low cost of the energy used in watermills is from the disadvantages Of using this energy. ( )

Worksheet (11)

- **Write the scientific term of each of the following :**

1. The gas layer at the Sun's surface where the light we see is emitted.(…………………)

2. Huge bodies in the space made mostly of hydrogen and helium gases. (……………………)

- **Put (✓) or (X):**

1. Solar panel consists of one small solar cell. (   )
2. Plants need water only to grow. (   )
3. Looking directly at the Sun is very dangerous. (   )
4. Plants can grow if they are placed in dark areas for several weeks. (   )

- **Complete the following sentences :**

1. The Sun is necessary for the growth of ………………Which is eaten by animals.
2. In some villages, solar panels are used to generate ……………..energy that is used To operate………………… Equipment.
3. The reaction between hydrogen and helium gases at very high temperature in the Sun produces large amounts of …….. ... energy and………..energy.

- **Give reasons for:**

1. Sunlight is very important for plants and animals.
   ………………………………,……………………………………………………………
   ……………………………………………………………,………………………………
2. Sometimes the Sun is not visible in the sky but you can feel its warmth.
   ………………………………,……………………………………………………………
   ……………………………………………………………,………………………………

Worksheet (12)

- **Choose the correct answer :**

1. Kinetic energy created by ……………. movement is used to rotate the blades of Windmills.

A. the moon B. stars C. water. D. Wind

2.The electrical energy is transmitted from windmills to house through …………………

A. water. b. wind C. Coal. d. wires.

3. When wind….. .. .. energy increases, the windmill blades spin more quickly.

a. Kinetic b. potential. C. chemical. d. solar

4. The change of energy in an………………. . is opposite to the change of energy in a wind turbine.

a. electric bell. b.electric heater. c. electric iron. d. electric fan

- **Complete the following sentences**

1. Wind is formed due to the effect of .. ……………………energy coming from the ………………….. In the Form of rays.
2. By decreasing the number of blades, the speed of rotation of turbine blades Will ……………….
3. By increasing the rotation of windmill blades, the wind turbine generates more……………. energy.
4. When the wind turbines rotate, . .. …………….energy is converted into………………. energy.

- **Correct the underlined words:**

1.<u>Potential</u> energy of the wind is converted into electrical energy by wind turbines. (.............................)

2. When air blows into the wind turbine from the <u>side</u>, the blades spin slowly. (..............................)

3. <u>Water</u> turbines rotate when the windmill blades rotate. (................................)

4. The difference in temperature between cold and hot air causes air to <u>stop</u>. (.............................)

Worksheet (13)

- **Choose the correct answer:**

1.Theason of flowing of river water downhill is the…force.

a. pushing b. friction. C. gravitational d. electrical

2. Both waterfalls and………… are renewable energy resources.

a. wind b. coal. C. oil d. fossil fuel

3. In water turbines, the………………Energy of water is changed into electrical energy.

a. chemical b. kinetic. C.thermal d. light

- **Correct the underlined words :**

1. The <u>thermal</u> energy generated by water turbines in dams is known as hydroelectricity.
(…………………………..)
2. Dams are built on rivers in order to generate <u>solar</u> energy.
(…………………………)
3. The electrical energy is generated by <u>wind</u> turbines in dams.
(…………………………)

- **Put (✓) or (x):**

1. Waterfalls are considered as non-renewable energy resources. ( )
2. The flow of water can be controlled to generate electricity in dams. ( )
3. Electrical energy can be generated from both waterfalls and wind movement. ( )

Worksheet (14)

- **Put (✓) or (X) :**

  1. Waterfalls are non-renewable energy resources.(   )
  2. Running water in rivers has kinetic energy. (   )
  3. The evaporated water from rivers can return back to rivers in the water cycle. (   )
  4. The energy produced from wind turbines is known as hydroelectric energy. (   )

- **Write the scientific term of each of the following :**

  1. The evaporation and condensation of river water, then returning Then returning Back to rivers through rainfalling. (…………………………….)
  2. A process in which water changes into water vapour. (…………………………….)

- **Choose the correct answer:**

  1. If The speed of moving water changes from 5m/sec. to..............m/sec, its kinetic Energy will increase.

     a. 2.   B. 3   C.4   d.6

  2. The form of energy resulted from waterfall is called……………. energy

     A. thermal.   B. chemical.   C. solar.   D. hydroelectric

  3. River water evaporates by the help of heat produced from

     A. kettles.   b. the Sun.   C. electric heaters.   D. electric iron.

Worksheet15

1-Put (✔) or (x):

1. The surface of the Earth changes from time to time.(   )

2. When large particles of rocks are broken into smaller particles, they can be carried by the moving wind.(   )

3. The water stream can break down rocks into smaller pieces.(   )

4. If you walk on the seashore and come the next day searching for your footprints, you will find them unchanged.(   )

2-Write the scientific term of each of the following:

1. The disappearance of a sandcastle as a result of its hitting with the sea waves. (……………………………………….)

2. They are deep valleys carved by flowing water.(……………………………….)

3. It is a model that can be built on seashores using sand and may disappear easily by sea waves. (……………………………….)

Worksheet (16)

1- Choose the correct answer:

1. All the following are processes that can change the Earth's surface, except...........

a. digestion. b. erosion. c. weathering d. deposition.

2. The condition of the atmosphere, including temperature, wind, and rains, is known as.......

a. weather. B. weathering. c. erosion. d. deposition.

3. Rusting of a statue is an example for the action of .... process.

a. deposition. b. erosion

c. mechanical weathering. d. chemical weathering

4. When water freezes, it expands. This means that................

a. it will evaporate. b. its temperature increases.

c. its volume increases. d. its volume decreases.

2-Give reasons for

1. Iron in rocks may rust.

   ....

2. Water plays an important role in the formation of limestone caves.

   ....

Worksheet (17)

1-Complete the following sentences

1. Cracks caused by freezing of water and melting of ice represent……………………….weathering.

2. In the……………………… Weathering, the chemical structure of rocks doesn't change

3. Formation of limestone caves is an example of…………….weathering.

2-Put (✔) or (x):

1. Roots of plants can slowly grow over time through small cracks in rocks, causing chemical weathering(   )

2. When water freezes, its volume increases.(   )

3. The reaction between oxygen and the iron of some rocks causes its chemical weathering.(   )

Worksheet(18)

1-Write the scientific term of each of the following

1. It is the process by which natural forces move weathered rocks and soil from one place to another.(……………………………)
2. It is the process in which weathered rocks and soil are laying down or dropped by wind, water, or gravity.(……………………………)
3. A fan-shaped (triangular) mass of sediment that is formed where a river enters a larger body of water like seas.(……………………………)
4. A hill of sand created by the wind. .(……………………………)

2-Complete the following sentences

1. Wind,………………………..and gravity are natural factors that control the erosion process.

2. Sand grains……………………..on the ground when the wind carrying it stops.

3. Sediments are mixed with the remains of……………….and……………………forming layers at the bottom of oceans and lakes.

4. Blowing of strong………………………..in the desert may form large sand dunes.

3- What happens when….?

1. More and more layers of sediments settle on the bottom of oceans, lakes, and in deserts.

   ……………………………………………………………………………………………………

2. A river carries sediments meet a sea.

   ……………………………………………………………………………………………………

Worksheet (19)

1-Choose the correct answer:

1. As a result of breaking down of…………….Sand is formed.

a. plastic
b. rubber
c. rocks
d. glass

2. A condition of atmosphere, including temperature, wind, and rains, is known as……….

a. weather
b. weathering
c. deposition
d. erosion

3. The breakdown of rocks, either mechanically or chemically, is known as…………….

a. photosynthesis.
b. weathering.
C. erosion.
d. deposition.

4. When a river meets a sea or an ocean, a…………. is formed.

a. canyon
b. volcano
C. mountain
d. delta

2-Put (✔) or (x)

1. The surface of the Earth never changes.( )
2. Limestone caves are formed as a result of chemical weathering.( )
3. When water freezes, its volume decreases. .( )

Worksheet (20)

Q1: Choose the correct answer:

1. A canyon may be formed due to the effect of..........

a. erosion and deposition. b. weathering and erosion.

c. weathering and deposition d. deposition only.

2.A canyon can be formed by the effect of.. ...

a. water only. b. wind only.

C. water and wind. d. water and Sun

3.A canyon may take .... of years to be formed.

a. hundred's b. tens

C. millions d. couple

4 .If the rain falls over a small canyon for several times per year......... ‘

a. its depth increase. b. its depth decrease.

C. it becomes flat. d. it is not be affected.

5. Wadi Nakhr in Oman is formed because water move................ away by the effect of erosion.

a. sunlight b. wind

C. sediments d. mountains

6 .Among canyons which has V-shape are............ .

a. Wadi Nakhr and the Small Canyon. b. the Colored Canyon and Wadi Rum. c. the Small Canyon and the Colored Canyon.

d.Wadi Nakhr and Wadi Rum.

7 .Among the evidences for the beginning of formation of small canyon by effect of running water is................

a. the deep sloped of its sides. b. trees and plants that are growing on its sides.

c. the little amount of rains that flow over it. d. the rocks and sediments that are found on its sides.

8.If the big rocks of a mountain were broken off, this is an evidence of...........

a. weathering process only. b. erosion process only.

C. weathering and erosion processes. d. weathering and deposition processes.

Q2 Write the scientific term of each of the following:

1 .It is the landform that is formed by the effect of weathering and erosion due to wind, water or other factors.

2 .The two processes that have the main role in formation of canyon.

Worksheet (21)

Q1. Put true or false:

1 .The Grand Canyon in USA is very large and steep.

2 .Rivers cause less erosion of rocks than small streams.

3 .The river movement can take the rocks away around mountains.

٤. The Grand Canyon took short period of time to be formed.

5 .Canyon is a type of dunes which has steep sides.

Q2 .Write the scientific term of each of the following:

1 .It is a special type of valleys which its sides are steep. (   )

2 .It is a very large and steep canyon which is found in United States of America .   (   )

Worksheet 22

Q1 Complete the following sentences by using the words below :

(sand – speed - deposition - rivers canyon – silt)

1 .Both of valleys and canyons often have…...............or streams flow through them lowest points.

2 .Deltas are formed when the............ of the river water decreases, which causes deposition of sediment.

3 .The plants of wetland and their roots cause increase of the rate of ....process.

4 .When the sides of a valley become steep, this valley may be changed into a............

5.Fast flow rivers carry sediments which called........... and it is made of very fine bits of............clay or rock materials.

Q2 Give reasons for:

1. Geologists study the layers of rocks in the canyon walls
   ....
2. Plants of wetland areas help in formation of deltas
   ....

Worksheet 23

Q.1 Choose the correct answer

1 .the process of carving the rock into different shapes by wind blowing is........

a. deposition. b. weathering. c. erosion. d. transportation.

2 .Sand dunes are formed by the effect of both. .... processes

a. mechanical weathering and deposition b. erosion and weathering

C. erosion and deposition d. chemical weathering and erosion.

3.When the force of wind blowing.......... the sand travels for a longer distance

a. decreases b. becomes zero

c. doesn't change of the wind blowing. d. increases

4. Formation of sand dunes depends on...............

a. force only b. direction only

C. both force and direction d. neither force nor direction

5 .Sand dunes are common landforms between.............. environments.

a. beach and rainforest b. beach and sandy desert

C. rainforest and sandy desert d. sandy desert and oceans

6 .When a rock blocks the path of flying sand, a.............. may be formed.

a. dune b. river c. valley b. canyon

Q.2 Put (√) or (X):

1 .Wind can pick up sand grains in forming sand dunes. ( )

2 .Sand dunes are the landform that can be seen in both beach and sandy desert . ( )

3 .Sand dunes are formed by erosion only. ( )

4 .Sand travels for a short distance when wind blows with a great force.( )

5 .Sand dunes usually seen separately, and may cover a small area. ( )

6 .Wind cannot break down rocks. ( )

Worksheet 24

Q1Complete the following sentences by using the words below

(layers _sedimentary- whales – formation)

1 .Wadi Al-Hitan formed from........rocks as sandstone and limestone.

٢. Among the fossils that are present in Wadi Al-Hitan are large skeletons of................

3.At Wadi A-Hitan, the newest rocks are found at the top of the.................

٤. Geologists called each separated rook layer in sedimentary rocks a..............

Q2 Give a reason for the following

1. Geologists study the layers of sediments in rock formations،
2. The oldest rock layers of Wadl Al-Hitan contain fossils of whales.

Model answer

Worksheet (1)

- **Choose the correct answer:**

  1. d   2.a .   3.c   4.a   5. d

- **Correct the underlined words :**

  2. Sun   2-Batteries   3Mars

- **Complete the following sentences:**

  1- Changed
  2- Chemical – electrical – kinetic
  3- Electrical
  4- Battery
  5- Electrical

- **Put (✓) or (x) :**

  1- (X)   2-(✓)   3-(X)   4- (✓)   5- (X)   6- (✓)

- **Give reasons for:**

  1. Because sunlight is converted into electrical energy.
  2. Because the chemical energy stored in battery is converted into electrical energy in turn changes into kinetic energy.

Worksheet (2)

- **Write the scientific term:**

  1. The sun .   2.Thermal energy.   3. Coal.
  4. Electrical energy.   5. Chemical energy.

- **Complete the following sentences by using the words from the brackets:**

  1- Electrical
  2- Potential – kinetic
  3- Kinetic – sound
  4- Kinetic – thermal
  5- Heat
  6- Light- thermal

7- Sun

- **What happens if…?**

1.The chemical energy is converted into thermal energy and light energy.

2.The kinetic energy converted into sound energy.

- **Put (√) or (x) :**

1- (√) 2-(X) 3-(X) 4-(√) 5-(√)

6- (X) 7-(√) 8-(X) 9-(X) 10-(√)

Worksheet (3)

- **Write the scientific term :**

1. Sound energy 2.Light energy 3.Kinetic energy

- **Choose the correct answer:**

1. B 2.D 3.B 4.A

- **Complete the following sentences:**
  1- Chemical – kinetic
  2- Electrical – thermal
  3- Conservation of energy
- **Give reasons for :**
  1- Because the electrical energy is converted into thermal energy.
  2- Because battery is the source of energy that is used to operate the toy car
- **What happens if…?**
  - You feel warm .

Worksheet (4)

- **Put (√) or (x) :**
  1- (X)
  2- (√)
  3- (X)
  4- (√)

- **Write the scientific term:**

1- Thermal energy 2.Thermal energy
2- Kinetic energy 4.Electrical energy

- **Choose the correct answer:**

1- A 2-C 3-C 4-a

- **What happens if…?**
  1- The electrical energy is converted into kinetic energy.
  2- Some energy is wasted as thermal energy .
- **Give reasons for:**
  1- Because it doesn't help the mobile phone do its main function.
  2- Because they don't help the blender do its main function .

Worksheet (5)

- **Correct the underlined words:**
  1- Thermal energy 2-Thermal energy
- **Put (✓) or (x) :**
  1- (✓) 2-(X) 3-(✓) 4-(X)
- **Choose the correct answer:**
  1- B 2-C 3-D
- **Complete the following sentences:**
  1- Thermal – kinetic 2-Coal- wood
- Give reasons for:
  1- Because fuel burns inside the engine to produce the thermal energy that is changed Into kinetic energy.
  2- Because the fuel in the car tank runs out.
  3- To produce thermal energy which causes the car to move.

Worksheet (6)

- **Choose the correct answer:**

1. D 2.A 3.B 4.A 5.C

- **Complete the following sentences:**

1- Solar energy – renewable – natural gas 2-Liquid

3-Biofuel – fossil fuel 4-Non-renewable

- **Correct the underlined words:**

1- A small 2-The sun 3-Plants 4-Decreased 5-Biofuel

- **Put(✓) or (x) :**

1. (X) 2. (X) 3. (✓) 4.(X) 5.(✓)

- **Read the following paragraph, then choose the correct answer**

1. a 2- a. 3- d.

Worksheet (7)

- **Put (✓) or (x) :**

1. (✓) 2. (X). 3.(✓). 4. (✓)

- **Arrange the following sentences:**

3 , 1 , 5 , 2 , 4

- **Write the scientific term:**

1. Water. 2. Fossil fuel. 3. Turbine

- **Correct the underlined words:**

1. Natural gas. 2. Renewable. 3. Steam. 4. Heat

- **Choose the correct answer:**

1. C. 2. D 3. B. 4. A. 5. D. 6. C.

Worksheet (8)

- **Choose the correct answer:**

1. B. 2. B. 3. A.

- **Complete the following sentences by using the words:**

1. Fish 2. Carbon dioxide. 3. Soil – acid 4. Smog

- **Write the scientific term:**

1. Respiratory system 2. Global warming

Worksheet (9)

- **Give one example for each other the following:**

1. Walking or biking. 2. Coal. 3. Not increasing the earth's temperature

- **Correct the underlined words:**

1. Non renewable resources. 2. Increase 3. Pollute.

- **Give reasons for:**
    1. Because when fossil fuel is burned it emits gases that cause air pollution
- **What happens if…?**
  1. The using of renewable resources of energy will not cause an increase in the earth's temperature
  2. Fossil fuel will run out on the earth .

Worksheet (10)

- **Choose the correct answer:**

  1. A. 2. B. 3. A
- **Correct the underlined words:**

  1. Solar 2. Low. 3. Electric.
- **Put (✓) or (x) :**

  1. (X) 2. (✓). 3. (✓). 4. (✓). 5. (X)

Worksheet (11)

- **Write the scientific term:**

  1. Photosphere. 2. Stars
- **Put (✓) or (x) :**

  1. (X). 2. (X). 3. (✓). 4. (C)
- **Complete the following sentences:**

  1. Plants. 2. Electrical – irrigation 3. Light – thermal
- **Give reasons for?**
  1. Because without sunlight plants will die ,and then animals that eat them will die also
  2. Because the atmosphere absorbs the sun's energy then land and water absorb this energy.

Worksheet (12)

- **Choose the correct answer:**

1. B. 2. D. 3. A. 4. D

- **Complete the following sentences:**

1. Radiant – sun 2. Increase. 3. Electrical. 4. Kinetic – electrical

- **Correct the underlined words:**

1. Kinetic. 2. Front. 3. Wind. 4. Move

Worksheet (13)

- **Choose the correct answer:**

1. C. 2. A. 3. B

- **Correct the underlined words:**

1. Electrical. 2. Electrical 3. Water

- **Put (✓) or (x) :**

1. (X) 2.(✓). 3. (✓)
2.

Worksheet (14)

- **Put (✓) or (x) :**

1.(x) 2. (✓). 3. (✓). 4.(X)

- **Write the scientific term:**

1. Water cycle 2. Evaporation

- **Choose the correct answer:**

1. D. 2. D. 3. B

Worksheet15

1-Put ( ) or ( ):

1- √ 2- √ 3-√ 4-x

2-Write the scientific term of each of the following:

1-Erosion of the sandcastle.

2-Canyons

3-Sandcastle

Worksheet16

1- Choose the correct answer:

1-a 2-a 3-d 4-c

2-Give reasons for

1-Due to the reaction between iron and oxygen of air.

2-Because water dissolves minerals in rocks, then this dissolved minerals combine again forming new shapes.

Worksheet17

1-Complete the following sentences:

1-mechanical 2-mechanical 3-chemical

2-Put (□) or (□):

1-x 2-√ 3-√

Worksheet18

1-Write the scientific term of each of the following:

1-Erosion 2-Deposition 3-A delta 4-A sand dune

2-Complete the following sentences

1-water 2-fall 3-plants-animals 4-wind

3- What happens when….?

1-The sedimentary rocks are formed.

2-A delta is formed.

Worksheet19

1-Choose the correct answer:

1-c 2-a 3-b 4-d

2-Put (□) or (□):

1-x 2-√ 3-x

Worksheet20

1-Choose the correct answer:

1.b 2.c 3.c 4.a 5.c 6.b 7.b 8.a

2. Write the scientific term of each of the following:

1. canyon 2. Weathering and erosion processes

Worksheet21

1-Put true or false

1.(√) 2. (x) 3. (√) 4(x) 5(x)

2-Write the scientific term of each of the following:

1. Canyon 2. The grand canyon

Worksheet22

1. complete :

1.River 2. Speed 3. Deposition 4. Canyon 5-Silt _sand

2.Give reason for :

1.to learn about kind of living things existed there long ago

2.because they help in increasing the rate of deposition process

Worksheet23

1. choose the correct answer :

1.b 2.c 3.d 4.c 5.b 6.a

2.Put true or false

1.(√) 2. (√) 3.(x) 4(x) 5(x) 6(x)

Worksheet24

1 . complete

1.Sedimentary 2.Whales 3.Layers 4.Formation

2. Give reason

1. to know how the landscapes looked like in the past

2. because in the past a deep sea was existed at wadi alhitan